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ISSUE 21 • JUNE 1988 • £1.50

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11th June, 1988
12.30pm

Yours
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ADVERTISING • 061-474 7333
FAX • 0225 446010

SUBSCRIPTIONS
SPECIAL OFFERS

THE OLD BARN
SOMERSET
SOMERSET • TA11 7PY
TEL • 0458 74011

EDITOR
Rob Atchley

ASSISTANT EDITOR
Alec Rae

STAFF WRITER
Sharon Bradley

ADVERTISING MANAGER
Margaret Clarke

AD PRODUCTION
Jenny Evans
Diane Tavernier
Clare Woodland

ART EDITOR
Kim Bale

ART TEAM
Angus Neal, Sally Meddings

SUBSCRIPTIONS
AVON DIRECT MAIL
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MAIL ORDER
Sarah Richards

PUBLISHER
Chris Anderson

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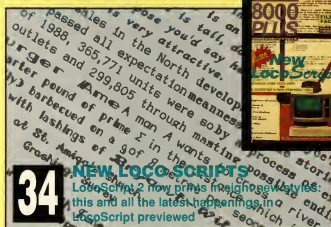
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OPENING MENU

OPENING MENU

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LocoScript 2

The new Word Processor for your
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All the examples are supplied on the LocoMail master disc, or on the LocoMail Examples Disc, available separately.

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BEHIND THE TIMES?

Remember the old Morris 1000s? There are still plenty of them knocking about, and many of them in pretty good shape. As anyone who's ever driven one will testify, they may not be the quickest or most comfortable cars ever built, and they certainly were never the most glamorous. The technology was never state-of-the-art even in the fifties, but they have always been reliable and the ideal no-nonsense car for people who just want, like those characters in maths problems, to get from A to B. And here they are, thirty years on, still going.

The PCW has more or less established itself as the Morris 1000 of the micros. According to Amstrad, the one millionth machine was sold sometime this month; it may even be true. But it's hardly state-of-the-art either. It uses the now superseded three-inch discs and its Z80 processor is ten years old, laughably outdated and slow compared to the new 16-bit Atari and Amigas and the 32-bit Archimedes. That's what makes it the price it is – and then the price they are.

But if it does the job, what's the point of the extra speed? Most of the time your PCW is doing nothing – even touch typists can only hit a few hundred keys a minute, meaning your machine's twiddling its thumbs 99% of the time. That extra few milliseconds wouldn't make any noticeable difference. Sure, if you want it to do something requiring a few more calculations per second – play an arcade game, say – the Archimedes will do it rather faster. But how many PCW users do you know who don't word process most of the time?

Just like car drivers, micro owners like to upgrade, buy newer

and faster models, and reminisce about the clanky old machines they had years ago. And, no doubt, a lot of hitherto computer-illiterate PCW users will surprise themselves by moving up the silicon ladder to more glamorous machines, and talk at length about how their old 8256 used to take nearly five seconds to make an ASCII file of that document which took them four hours to type in when their new transputer does it in three and a half nanoseconds. But in ten years' time the vast majority of current PCW users will still be there, happily using LocoScript 5 and their Amstrad laser printer, still turning out perfectly good letters, business documents and manuscripts.

So, next time you pass your local computer store and read the blurb for the machines of the future with their four-figure price tags, smile and think how much your PCW cost.

Rob

When the music stops

Great things have been afoot here in Bath. Erstwhile editor Ben Taylor has forsaken the PCW and moved up onto 16 bit machines. (The PCW is an 8 bit machine. If you're wondering what the difference is, it's just that the 16 bit models crash twice as often). He'll now be editing our top secret new magazine *ST/Amiga format*. Atari and Amiga devotees can look forward to seeing all 8000's old jokes reappearing there.

Stepping into his shoes and taking over the editor's chair here is Rob Ainsley, while

8000's new boy is Sharon Bradley who, having just flown in from Dallas in a leopard-skin bikini, reaches the summit of her career in working alongside such an esteemed personage as Alec Rae. Alec manages to avoid being Technical Editor yet again.



Bring on the sub

As the number of our subscribers continues to swell we've had to take on outside help in the mailing of our subscription copies (the PO don't do bulk mailings, and it was a bit much to expect Carrie-Anne in Somerton to post off several thousand magazines every month).

So, as from now, all subscription mailings (and therefore all complaints and enquiries) are being handled by:

Paul Edwards
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8000 PLUS

The sizzling July edition of 8000 Plus will be in the shops on 23 June. Stay cool, reserve your copy now!



Hard Disc competition

After a great deal of unravelling our judges decided on the correct solutions to the Hard Disc competition in the March issue. The correct answers to the spaghetti-like tangle of data disc to programs was deemed to be: 1 - word processor; 2 - accounts; 3 - database; 4 - graphics; 5 - spreadsheet. The number of entries was the highest we've

ever had for a competition – well over a thousand. The two lucky winners picked at random were: 20k Hard Disc: Dale Mellis, Richmond, Surrey; 10k Hard Disc: Gordon Ball, London.

Your hard discs will be with you just as soon as we've reformatted them. Our thanks to ASD peripherals for supplying the prizes.

NewStar Software presents....

THE CATALOGUE

Software for PCWs and PCs

It's all in the latest NewStar Software Catalogue, complete with introductions and explanations to the various subject headings. Information to help you choose, presented in one complete catalogue.

There isn't room in a single advert to show you the comparative merits of the various databases, accounts packages, wordprocessors, communications software or spreadsheets.

But there certainly is in 48 pages!



The image shows the cover of the NewStar Software Catalogue. The title 'NEWSTAR SOFTWARE' is at the top left, and 'SOFTWARE CATALOGUE' is written vertically on the right. A list of software categories is on the left: WORD PROCESSING, SPREADSHEETS, UTILITIES, DATABASES, BOOKS, ACCOUNTS, HARDWARE, COMMUNICATIONS, GRAPHICS, ENTERTAINMENT, and NETWORKING. A small inset shows a computer monitor displaying a bar chart. A box in the center lists PC software suitable for EGA & 3 1/2" disk formats, including EXP-MAIL, EXP-MAIL, CONVERSATION, EXP-MAIL, EXP-MAIL, EXP-MAIL, and EXP-MAIL. A small image of a floppy disk is at the bottom left. A large diagonal banner at the bottom right contains promotional text.

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PC software also suitable for EGA & 3 1/2" disk formats

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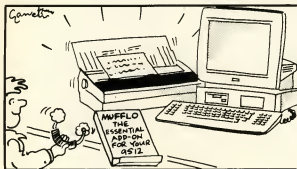
What'n Offer

If you've missed Amstrad's typewriter trade in promotion on the 9512 don't despair. Kador have introduced a special offer of a free 'Peace'n Quiet' Acoustic Box/Printer Stand free with every PCW 9512 sold.

The box, which normally costs £38.95, holds the PCW's rather noisy daisy wheel printer and reduces the noise level considerably. Kador suggest that

the atmosphere of peace and tranquility that this will create in your work place will produce savings "both mentally and financially".

Just in case you're not convinced the company are also offering a £3 voucher for Kador products for every £50 spent on an Amstrad computer and/or printer bought from the company. For further details phone 0443 740281.



Address Mark Search Party

Ever wondered where all those address marks go – the ones that always seem to be going missing. Disc Recovery Service of 81 St Leonards Road, Bradford BD8 9QE are offering a free service to 8000 Plus readers to look for them – or in layman's terms to try to recover data from damaged discs.

All they require is a formatted disc for every damaged one you send and, of course, a stamped addressed envelope. They suggest allowing 10 days for your repaired disc to return. Well you certainly don't have much to lose.

David Smith, an old friend of 8000 Plus, who repairs discs in return for a small contribution to charity is also available again to take damaged discs. Anyone interested should read his letter in Post Script.

Looking for Adventure

You can bring a lot of adventure into your life if you take advantage of the latest offer from Topologika, who have just introduced a new deal for bulk sales of their adventure games. Instead of having to spend £9.95 on each of their first four games (Countdown to Doom, Kingdom of Hamil, Acheton and Philosopher's Quest) you can save up to £3 per disc. For instance if you buy all four discs you need only pay £6.95 each and for any three discs you pay £7.95 each. Buying two saves you £1 per



disc.

The company have also cut the cost of 'Yes Chancellor' their simulation of British economics to £9.95 and they have released a follow up to Countdown to Doom, the new Return to Doom for £12.95. A third part of the trilogy is expected later this year. For details phone 0733 244682.

Jumbo Packs His Trunk

Just as soon as we carried the review of the Jumbo BASIC programming aid, CNS Services who produce it decided to move. Jumbo is the disc full of descriptions of each Mallard BASIC command and the syntax, ideal for all absent minded programmers. Anyone looking for the company should try 0736 752061.

NEWS

RAM leap

How does a good idea by Ronald Reagan (president of the United States of America) put up the cost of a PCW 8256 by £50? Well it appears that US federal action is being blamed for the rise in the price of D-RAMS (dynamic ram chips) which, in turn, has led to a price increase in the basic single drive machine.

In a bid to reduce their budget deficit the Americans set up trade restricting on Japanese chips. So the Japs cut production and then waited for the price to rise as the shortages appeared. Now the 256k RAM chips cost \$3.75 each instead of \$1.50.

So now the Americans are paying the same money for a smaller number of chips and PCW users are having to cough out another £50 up to £349 + VAT for the basic model.

The end of April, in effect, also saw a price rise in the new 9512 at the end of a nationally advertised promotion that had sent people scrambling into cupboards looking for redundant type-writers. Now you will have to pay £499 + VAT for a 9512 even if you have an old Royal to

trade in.

This brings it up to date with the 8512 which has already risen £50 (as reported in our April edition) and most of the Amstrad PC range. Amstrad are confident that the price rises will not affect their market according to the press release announcing the price hike.

Amstrad's sales manager Keith Collins said "The D RAM situation is affecting all computer suppliers and we will see a number of price increases in the coming months. In order to maintain our high level of advertising we must maintain our margins. Our Spring sales offensive, amounting to some £8 million is in full flood and I believe that the price increases will have little or no impact on end user demand."

Not that the 8512 price increase has made much difference to the sales of that particular model. Since some time before the 9512 was launched there have been shortages of the machine until now even if you were willing to pay twice the asking price of £449 + VAT you would have difficulty laying hands on one.



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*The PCW requires an interface, please add £50 inc. VAT if you need it.

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FRINGE BENEFITS

Sharon Bradley gives you a quick guided tour of PCW add-ons

Every other advert in Amstrad magazines seems to be for one more 'indispensable' add-on – PCW cabinets, paper aligners, things which stop your keyboard spreading contagious diseases... hundreds of products to save time, save space or protect your machine. But which are a genuine benefit, and which merely jump aboard the Amstrad bandwagon? These are some of the things we think you might actually find useful...

Judging by the 8000 mailbag, the items of hardware causing most interest are screen filters. VDU (Visual Display Unit) filters (or rather the lack of them) have been stirring up more than their fair share of controversy in the press recently. Alarmists would have us believe that by sitting in front of a VDU for hours on end we were exposing ourselves to harmful infrared and ultraviolet rays. The incipient panic was deflated by the Institute of Ophthalmology in London who stated that we were all exposed to more infrared in everyday life – waiting at a bus stop, say – than by sitting in front of our PCWs. Health problems that occur are caused not by the VDU itself but by the various conditions in which they're used. That annoying flicker that we've all experienced at some stage or another is one of the major causes of operator headache, for example (along with typing ERA " instead of ERA *.BAK).

What screen filters are really good at doing is combatting the effects of sunlight: they eliminate glare, heighten the contrast on the screen and improve readability. Instead of a murky, squint-inducing lime-on-grey, you get a better green-on-black contrast.

The simplest type of filter (VDU Technology's model at £14.50) is a screen-shaped piece of grey plastic which sticks directly on to the glass face, though it tends to require the help of sticky tape after a while. Alfa Electronics' filter is a square of mesh (which DIY enthusiasts swear can be imitated by stretching a piece of chiffon over the screen) fitted onto a plastic frame which sticks on to the body of the monitor. VDU's filter produces clearer contrast, but the Alfa filter (at £17.95) cuts down on reflection better.

If money is no object then the Accodata filter might be worth looking at. Though it's expensive – £64.50 to £74.50 plus VAT – it gives you lots of features to show your friends, such as a roller blind filter, a metallised mesh to block emission and an earthing cable to reduce static.

For those worried by static, the Static Buster claims to provide an efficient static control system for the PCW and its user. For £44.95, it will send static charge from the keyboard and terminal and send it to earth, though why this should be a good thing is questionable.

Copy catalogue

There are a number of devices to hold up documents for copy typists to read from. The Thingi (as it has memorably been named) is a simple plastic ruler-resembling device which attaches to the top of your PCW with Velcro, and sticks out horizontally from the side. It has a small clip into which you attach the text that you need which you can then easily refer to at a glance. It seems able to hold up reasonably heavy items – say a



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4 Crown's carrying case for the 9512

5 Kador's range of add-ons for the PCW.

6 The Com-Stax workstation

7 BBDs PCW dust covers.



6

1 Alfa's margin maker and screen filter

2 The stick-on VDU filter from Visual Display Technology.

3 Re-usable disc drive cleaning kit from SBS.

copy of 8000 Plus open at the Tipoffs page. £9.95 is a lot for what is effectively a strip of plastic, but you quickly find you can't do without it. There are right- and left-hand sided models. Kador, popular accessory manufacturers, have even gone so far as to produce The Dextette – which for £6.00 combines three operations in one product: copy-holder, clipboard and write-wipe board. It performs fairly adequately; the only problem is, the heavier the text you clip into it, the more unstable it quickly becomes. Despite its write-wipe facility it's unlikely you'd use it to write your shopping list on; it suffers a bit from trying to do everything.

More sophisticated 'anglepoise' copy holders for around twenty pounds can also be found in the large mail-order ads. They're certainly a lot sturdier but the price makes them best suited to professional heavy duty work.

Key coverage

For those PCW addicts out there who quite frequently find themselves sitting bleary-eyed in front of their green screens in the early hours of the morning sustained only by a seemingly endless stream of black coffee, or for those of us who are just plain clumsy, Kador also do 'Seal'n Type'. It is a transparent, re-usable spillcover which fits, like a film, over the keyboard. In laboratory conditions it protected the keyboard against every drink available from the Future Publishing office machine. It didn't affect normal use of the keys either. Again you have to decide whether £10.15 is a worthwhile investment (enthusiasts claim cling film can be used instead).

Richman Software's Menu-Mate is a plastic cover which fits over the keyboard and offers you a foolproof system of reminder templates. Operational commands and instructions are there at a glance, reminding you to save the work you're currently busy with, for example. It also provides simple instruction on some of the more commonly used LocoScript (1 and 2) procedures. At £6.99, it's probably a useful add-on for your PCW, especially if you're a LocoScript 2 devotee who has as yet failed to penetrate its darker mysteries.

The problem of how to keep your discs organised is a common one. The Plonker Box (honestly!), again from Kador at £4.99, is a small box which sticks on to the side of the PCW and holds your everyday discs. If you use a large amount of discs, the AMS disc storage box for £12.95 seems good value. It's lockable (so instead of just stealing one disc, they'll have to steal all your discs) and holds up to 21 discs in individual partitions. If you hunt around your high street shops, you may find a cheap card index box which will do as a disc holder.

Printer add-ons

The printers supplied with the PCW are extremely good



All Clear Ahead!

To ensure optimum quality printout, it's usually a good idea to give your printer a periodic overhaul. It's not quite as drastic as it sounds, though. All you have to do is get rid of the ordinary office pollution (like dust and cigarette smoke) and residual ink which clogs up the printer heads, and this can be done through a number of printer cleaning products now available. Cleanprint, at £14.95, looks just like an ordinary printer ribbon except that the inked ribbon has been replaced by an impregnated cleaning fabric which lubricates the printhead and lifts off the grime. A good investment for anyone who wants to keep their printer in tip-top condition.

SBS have developed Cleanprint (£9.95) especially for the Amstrad range and is the first re-usable 3" disc drive head cleaning kit

available. It comprises a cleaning cloth disc and specially formulated cleansing solution. Once inserted into the disc drive it will pick up all the harmful oxide particles deposited by the disc and in the long term protect your data and prolong the life of the disc drive.

Of course, a good way of minimising the amount of grime to which your machine is subjected is by investing in some dust covers. Usually low-costing and very durable, they'll halt any deterioration to the hardware simply by covering it over when you're not using it. The manufacturers design them to accommodate the monitor, keyboard and printer and sell them in packs of three for around £12.00. They'll prove as beneficial to the PCW home enthusiast as to the professional user.

budget models. The only complaint most people have is that precise paper alignment is difficult; if you want to print out for your personal organiser with the text right up against the left hand edge of your paper, or print in two columns by feeding the sheet in a second time, you have only guesswork to rely on.

Paper guides are accessories which clip onto the printer and feed in the paper (funnily enough) in such a way as to precisely align the margin. Feed'n'print, from Kador, has sliding markers and scales in pitches 10 and 12, so as well as being instantly adjustable to whatever paper you happen to be using, it will also centre A4. Kador have recently produced a paper feeder suitable for the PCW 9512 daisy wheelprinter, at £9.85 inclusive of VAT.

Suppliers of the MM3 take great pride in pointing out that this margin maker has been designed exclusively for the Amstrad PCW range and that it has not been imported from another model. Like the paper feeders it will probably save you wasting reams of expensive letter-headed paper because of wonky margins. The MM3 successfully corrected any tendency of the paper to slide (especially continuous stationery) by means of two arms which also accurately replace it if it needs to be reinserted. Again, at £12.50 it would probably be a good investment for businesses though PCW hobbyists wouldn't use it so much.

There is, as yet, no sheet feeder for the PCWs. If you're doing a mail merge run on letterheaded company paper, you have no option but to feed in the sheets manually. Surely there's a market there to be exploited by someone?

Furniture music

There's been a flurry of activity recently in the computer furniture manufacturing business. Designed predominantly to save space, the Com-Stax 'workstation' (formerly known as Am-Stax) can accommodate all the machines in the Amstrad 8000 range. Again, the printer is positioned on top of the monitor whilst the keyboard is set at a 30° tilt to make those long hours spent sitting in front of the screen that little bit more comfortable. Com-Stax will be a boon for the home-user as it takes up approximately one quarter of a square metre of floor space. It doesn't have any flat desk space, so you'll need somewhere to put your

discs, paper, coffee, biscuits etc. But at £29.95 as a flat ready-to-assemble kit it does represent remarkable value, and looks very stylish too.

Elmo UK Ltd can offer a much larger model with more sophisticated features – pull-out files, shelves, a worktop etc. – called DataDesk. Although it wasn't designed exclusively for the PCW, at £120.00 inclusive of VAT it's probably still a very good buy, especially when you bear in mind the exorbitant prices of standard office furniture these days.

Racket protection

The 9512 daisy-wheel printer has long been renowned for the racket it makes and its ability to halt all telephone conversations within a ten-mile radius. In an enclosed working environment, this is guaranteed to drive you berserk, especially if you're feeding it continuous stationary. Various suppliers have come up with a compact, lightweight acoustic hood which dramatically reduces the noise level to the extent that you can easily carry out even a very intelligent conversation next to it and continuous print-runs are no longer quite so nerve-fraying.

Amgard do a hood for 8000 printers at £89.95, while Kareware's model costs around the same.

Colouring up

If you're bored of ordinary black and white printout, and would like to bring some life into your reports (especially useful for presentation documents) colour printing sounds fun. SBS Computer Supplies have a range of nylon colour ribbons for the Amstrad 8000 series and the 9512. They are available for £4.25 each in 5 colours: red, green, purple, brown and orange and are fairly easily inserted – as soon as you want a change of colour – by arresting the printing procedure. In a LocoScript document, for example, you'd press [PTR] and then [EXIT] to resume – so unless you

have a good sense of timing, it might be tricky to pick out individual words in a different colour!

The same company also supplies reusable nylon ribbons for the PCW 9512 which will shortly be supplanting their carbon counterparts and prolonging ribbon life by 4 or 5 times.

Portable PCWs

Until someone comes up with a genuinely portable LocoScript machine, we'll have to make do with lugging the PCW around. Crown Computer Products have a range of transportation cases, each case being specifically designed for the machine that it will hold, for around twenty pounds. They're not particularly cheap, however, but the suppliers are eager to stress their durability and their protective properties.

Often the simplest things are the most useful. Different people swear by different products, but most people will find a screen filter, a copy holder and possibly a printer hood worth the money. Careless coffee drinkers would do well to get a keyboard cover too. The paper aligners will be very useful to anyone writing business letters.

All these bits of hardware may not do things quite as exciting as your desktop publishing program or your adventure game, but they're all handy things to have, and are guaranteed to be free of bugs!

EXIT

Directory

This list is by no means comprehensive, but it will give you an idea of where to start. Most accessory suppliers advertise quite extensively in PCW publications. All prices include VAT unless stated.

Screen Filters

Visual Display Technology (01 368 9555/0666) £14.50

Accodata (0732 885555) £54.50 to £74.50

Alfa Electronics Ltd (01 390 2588) £17.95 to £19.95

Amgard – Computing Plus (0993 881912) £59.95

Paper aligners

Margin Maker (0784 52677) £12.50

Kador (0685 87051/883663 Ext 217) £7.50

Alfa Electronic (01 390 2588) £7.50

Keyboard spillcovers

Kador £10.15

Disc Storage Holders

Plonker Box: £4.99 CF2 Pop-up Disc Storage Holder: £5.50 CF2 Lockable Disc

Storage Holder: £10.95 (all from Kador)

Orion (01 852 3694) Sentry Supreme Model 5720 Media Fire File (fireproof disc box) £299.00

SBS Computer Supplies (01 434 0153) £10.95

Maintenance Kits

SBS Computer Supplies Ltd (01 434 0153) From £14.74

3" Disc Drive Head Cleaning Kits (Reusable) Available from SBS Computer Supplies Ltd Price: £9.95

Copyholders

Dexette – Kador £6.00

RSC Ltd (0923 243301/241921) £16.00.

Thingi – Little Office Computer Products (051 666 1190) £6.95

KCS (01 993 7855) £19.50

Colour Ribbons

SBS Computer Supplies From £4.84 excl. VAT

RSC Ltd £6.00

Acoustic Hoods

Kareware (01 833 2458)

RSC Ltd at £175.00

Acoustic box/printer stand – Kador £38.00

Computing Plus Price: £89.00

Workdesks

Elmo UK Ltd (01 836 6913) Price: £120.00

SBS Computer Supplies Price: £187.00 excl. VAT

Computing Plus Workstation with inbuilt printer at £99.95 incl

Crompton Computer Furniture (0908 311544) The Compact Workstation from £119.00

Com-Stax (01 373 4979) £29.95

Dust Covers

BBD Covers (0257 422968) From £11.95

Transportation Cases

Crown Computer Products (0704 895815) Printer case: £10.40 excl. VAT PCW 8256/8512 case: £17.50 excl. VAT

NOTES IN THE DARK? Light them up with CHIBASE!

CHIBASE is specially designed and written for the PCW by Chiasma Software

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- A single key command causes the edited text to be stored as a record on the database. The keywords will be stored in an index. The software uses the index to find records.
- You can selectively retrieve records by means of an enquiry which is just a list of keywords. Those records which include the listed keywords will be retrieved. You can also retrieve only those records whose keywords include some minimum number of the keywords in the list.

Some features of Chibase

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- **Keywords** up to 15 characters. Up to 50 keywords per record.
- **An Index** of keywords is automatically maintained by the software. You can view or print the index.
- **Form facility**, if required, helps you to position text within the records. Move between parts of the form by pressing the TAB key.
- **Export/Import** facility enables you to move English text or from your word processor.
- **Amend/Delete** facilities.
- **Sort facility**. (Needs 512K RAM).
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9512
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YOUR PCW



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"8000 Plus" March 1988

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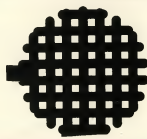
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D1007

Amstrad PCW Magazine

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'an excellent program... I can unhesitatingly recommend PTP' D1006 Computing with the Amstrad PCW

new

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Supertype II is unique in that it works directly with Locoscript and all of your GEM software. It supports all of the printer's high quality modes including enlarged bold, emphasized, italic, etc. - a valuable addition to the PCW's talents - very simple to use - learnt in 15 minutes! 8000 Plus D1003

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very user-friendly good for many business applications. It's a real value for money! D1001 Amstrad PCW Magazine

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COMPLEMENT FONTS & BORDERS

£12.50 • Dragonfly Designs (58 The Shrublands, Horsford, Norwich, NR10 3EL)
 • 8000s only

When the PCW came out at first everyone was thrilled with being able to print in italic. Now that people are used to fancy DTP fonts the craving for new and more striking fonts becomes compulsive. And acting as 'pushers' Dragonfly Designs have come up with new fonts and borders for all the main DTP packages.

Of course the Complement discs do nothing that you couldn't do yourself - If you had the time and the flair. Most of the DTP packages provide the ability to design your own fonts. But, as anyone who has tried to design their own font knows, it is a very time-consuming and often totally frustrating exercise. Even some of the fonts that are provided with DTP packages showing glaring inconsistencies that send you leaping for the font editor. It's a pleasant relief to find something that does provide you with good, consistent, easy to read fonts with a touch of flair.

The latest Complement disc, designed to work with Stop Press marketed by AMX, is one of the best. Because Stop Press has its fonts designed on a full 32x32 grid the new Complements fonts can be simply loaded and used as

normal. This is an advantage over the DTP packages that have 16 by 16 grids (Fleet Street and Desk Top) as the characters have then to be cut and pasted as graphics - a far slower and more laborious task.

There are 11 fonts on this disc. Apart from the Rune font, for Tolkien fans, and a particularly modern 'Techno' font the characters are all eminently readable and a touch more artistic than the standard character sets. They are mainly

The quick brown fox typed
everything in IDeco2

The lazy dog preferred
Roveau 1

based on Art Deco and Art Nouveau styles which translate very attractively on to the screen. As always the printed output isn't so good but they are still above average.

The other main constituent are the pieces needed to make up fancy borders round your picture. You can build up corner and side units to frame your text in a variety of impressive Celtic and Art Deco styles.

Setting these up is not the easiest of jobs even with the solid positioning of Stop Press. However the finished product does look impressive right down to the twin rose design you can use to fill the bottom of the page. Another advantage of the Stop Press version is that the DTP package has the ability to reverse and rotate the elements meaning that you can re-use the one corner unit for the whole border.

RANGE OF FEATURES
EASE OF USE

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PERFORMANCE
DOCUMENTATION

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REAL TIME CLOCK

£59.95 • SCA Systems Ltd (0903 700288)

• All PCW's

As anyone who's worked into the small hours could tell you, it would be nice to have a clock on the PCW which shows the real time. But as Amstrad didn't see fit to install one on the PCW, would it be nice enough to warrant the investment of £30 or £40?

But if you need an RS232 interface (the box that fits on the expansion port to connect to another printer, modem or another computer) and it happens to have a real time clock in it, suddenly it sounds more interesting. And when you hear that this costs only £59.95 hardly more than the normal RS232 it becomes quite fascinating.

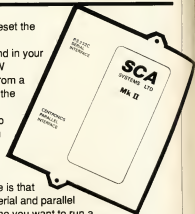
The PCW has an internal clock which you can use for various timing processes. The problem is that every time you switch on the computer assumes that it is the first seconds of the 15th December 1982 - the moment that time was invented according to the PCW.

Of course you can reset the time, but with an SCA interface and a command in your PROFILE.SUB the PCW reads the correct time from a battery-backed clock in the interface. It isn't totally accurate as it can't keep track of seconds so you could be up to a minute out, but this shouldn't worry too many people.

The other advantage is that you also have the full serial and parallel interface there every time you want to run a printer or to hook up to a modem or another computer. The interface can handle baud rates of 75, 110, 300, 600, 1200, 1800, 2400, 4800, 9600 or 19200.

To make best use you should have it fitted constantly but this is quite sensible if for no other reason than to avoid damage to the delicate edge connector. However it doesn't have any 'piggy-backing' extension so that could cause problems if, say, you wanted to use a mouse.

It comes with a demonstration disc and a printed manual which although not totally lucid does give you enough information to get to grips with the interface.



RANGE OF FEATURES
EASE OF USE

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A simple to use introductory database. Design your own record card on screen in minutes with up to 250 items of information. Storage is disc based so it is not limited by the memory. A Help Panel is included for new users. Records are kept in constant sorted order and are instantly accessible by name or number. Manual or automatic search options and facility to re-sort the file. Mailmerges with locoscript and outputs ASCII files. Reports and totals. Example uses are mail lists, stock inventories, booklists, client information and much more.

2 LERNILOCO (PCW) £16.95

A step by step tutorial to gain a full understanding of the LocoScript wordprocessor. Many exercises are included to give experience and confidence. Users soon gain confidence and even create their own personalised manual!

Other Software for the Amstrad

CPC 464/664/6218

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A comprehensive yet easy to learn touch typing course based on the famous Pitmans method. It has been designed to teach the correct method for the skill of fast, efficient typing. The emphasis is heavily placed on rhythm and accuracy rather than testing by speed at an early stage.

4 FIRST CALC (PCW, CPC6128 and PC versions) £29.95

A simple to use spreadsheet yet contains many facilities available on much larger systems. Full maths capabilities including average, count, max., min. and total. Calculate in both horizontal and vertical directions to an accuracy of 14 significant figures. Portions of a sheet may be copied, printed, saved or loaded with either automatic relative or absolute reference adjustment. Useful for fast and effective cashflows, home budgeting, statistics and even stocks and shares.

"This is not just a beginner's program it contains enough sophisticated features to suit the needs of most people". 6000+ July 87.

"First Calc performs admirably, the price is unbeatable and it is simple to use". Amstrad Action, Sept '87.

CALLING THE SHOTS

Trouble with mail merging in Mini Office? Manual no help? Don't just have a shot in the dark: Rob Ainsley sheds some light in part 3 of our series....

Yes, fine, we all know there's a good database and a good word processor in Mini Office – but how can you use that database data in mail shots? After all, most databases are used for club or company records, where mail shots to members or customers are a large part of the job. Being able to link the two is one of the most powerful features of Mini Office: given a few minutes' work you can print out at a stroke letters for all those names and addresses stored in your database with the names, addresses and even other details of each person automatically put into their letter.

Suppose you've stored your book club customer database in a file called CLUB.DBS, containing each member's name and address somewhere. The key to mail shooting lies in a file called CLUB.MRG, which saves these details in a form the word processor can understand. You can then write a letter and leave slots of a fixed length to be filled in by an item from this 'merge' file. The word processor will churn out a letter for as many people as there were in your database, filling in the slots for each.

(You can't change the .DBS or .MRG endings).

If you want to send letters to only a certain selection of those on the database – for example, just to customers who owe you money – you'll have to split them off to a separate database. Use 'Search and mark' as described last month to mark off all debtors which are saved ('Save marked records') to a file DEBTORS.DBS, and then make a mail merge file out of these.

Now replace your Mini Office disc and go into the word processor via the main menu. When it's loaded up you can re-insert your data disc.

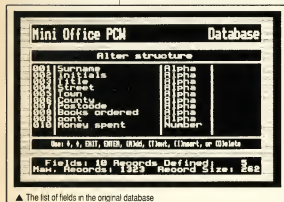
Select 'Database' from the main word processor menu. You have the options to 'load' or 'view database' or 'assign strings'. These are the three stages you go through before beginning your mail merge letter itself – first you load the mail merge file you just created into the memory of the PCW, then view it to check the right information is loaded up, then tell Mini Office how you want this information organised into your letter.

Select 'load database' and load the file CLUB.MRG (not CLUB.DBS or you'll get the worrying message 'failed to load record'). Back in the same menu select 'view' and you'll see the items in the first record of the database together with the number of each field. If there's something wrong you'll have to go back to the database and re-save the merge file.

Strings attached

Then from the same menu, take 'Assign strings'. This is a list in which you assign fields of the database to numbers – suppose you assign the 'surname' field to number 1. When you come to write your mail merge letter, every time the code 'D1' appears in the letter, the contents of the 'surname' field will be inserted. Similarly if you assign the 'first name' field to 2, then every occurrence of 'D2' in the letter will result in the contents of the first name field being substituted.

To assign the surname to number 1 as above, use the cursors to move down to '1' and press \rightarrow to signify a field from the database. The next number you enter is the number of the field from the database, so you'd better have a list of which field is which somewhere! To avoid confusion it's probably easiest to make field number 1 from the database be assigned to number 1 in this list, though you don't have to. In the original database, surname was field



▲ The list of fields in the original database

Start Point

So, the first thing is to load up Mini Office as usual, select the database, and insert your data disc with the database file on. Load your file CLUB.DBS from the 'Load/Save' option in the main database menu. Then from the same menu take 'Save mail merge file' giving the name as CLUB.MRG.



▲ The first entry in that database



▲ 'View database' shows you which field is which

number 1, so the number you type is 1.

Next you define the length. The length is fixed – make it shorter than the longest surname and some surnames will get truncated so play safe. If you can remember the length you defined for the field in the original database set up that'll do nicely.

Carry on for all the fields you might want to put in the mail merge letter. Of course if you want to play extra safe you can just assign every field to the same number in the list.

Pedant note

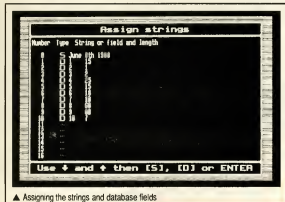
The word 'database' is used loosely to mean the program which manipulates your information, or the file on disc in which the information is stored, or just the information itself in a general sense. To confuse things further, the company which manufactures Mini Office is called Database Software.

Instead of printing a field from the database, you can tell the word processor to print a piece of text every time it sees one of those 'D' numbers in the mail merge letter. For example, you could assign today's date to the number 0, and then all your mail merge documents with 'D0' in the text would automatically print the correct date at the position of the 'D0'. Instead of manually editing all your various mail merge letters, you'd just assign today's date to the number 0 by pressing **S** instead of **D** above and the typing in the date.

Extra, extra

When the 'assign' list looks right, EXIT and start working on your mail merge document. All you need to remember is that pressing EXTRA-D followed by EXTRA-0 will put that 'D0' code mentioned above into the text, and similarly for the other numbers. It's distinguished from normal text by being printed in dim letters. Every dim 'D0' is a slot for the date, every dim 'D1' is a slot which will be filled by surnames from the database, and so on.

Suppose you've matched each field in the database already defined with the same number in the assign list, ie D1 is the surname (length 15 say), D2 the initials (length 1 say), D3 the title (suitably long) D4 to D7 the address, D8



and D9 the books ordered, D10 the amount owing. Your mail merge letter would begin something like:

The Book Club
55 Bombay Rd
Beverley
East Yorkshire

D0

D2 D1

D4

D5

D6

D7

Dear D3 D1

As a valued member of our book club, we're sure you'll be interested in our new summer catalogue...

June 6th 1985
J Smith
10 Delhi St
Bredford
Lees Yorkshire
LS2 7TT

Dear Mr Smith

As a valued member of our book club, we're sure you'll be interested in our new summer catalogue. However, we're not going to send you one, because you haven't paid for the following books yet:

Bluff Your Way through the Presidency of America
Ashcroft Made Easy

Please forward a cheque for the following amount at your earliest convenience: £122.00

Yours sincerely

Bert Hardcastle
Treasurer

The Book Club
55 Bombay Rd
Beverley
East Yorkshire

Blankety blank

The space occupied by each slot for database items in a mail merge letter is fixed, and Mini Office isn't 'smart' enough to close up blanks. If you leave ten spaces for a first name then ten for a surname, the name 'J Smith' would come out as J Smith while 'Srinivasaragavan Venkataraghavan' would be truncated to Srinivasra Venkatarag. It follows that you can't try anything fancy, and it's best to keep slots by themselves on a line - as they would be for names and addresses at the head of a letter.

When you set up your database, you can avoid a lot of trouble by having a special field called 'title', say, which contains items like 'Dr Smith', 'Field Marshal Montgomery' etc., in addition your normal surname and initial fields.

There are no conditional facilities in Mini Office's word processor - you can't include commands to the effect 'only say we'll send the books round if the customer owes us money' as you can in mail merge programs proper. The best you can do is to separate the debtors from the non-debtors back in the database and do mail shots for each, which may well be OK for many purposes.

While Mini Office is fine for simple mail merging, more sophisticated requirements such as the 'You, Mr Taylor, have been chosen out of all the people in St Amiga Rd to take part in our prize draw' type letter, or ones where the content may vary from person to person, will have to be done on a mail merger which closes up blanks such as LocoMail or Protect.

Remember that if you want to include some info in the middle of the letter - the list of books each person has ordered, perhaps - put them in a line by themselves:

...We have received your order for the following book(s):

D8

D9

and will be sending them to you very shortly.

Sometimes you might

be able to get away with putting an item at the end of a line:

We note with some concern you still owe us D10

Please pay up, we wouldn't want anything to happen to you

When you've finished your letter, you can see how it looks on the screen. EXIT back to the main word processor menu and take the 'Print' option, then select 'Preview' from the Print menu. You'll see a letter for each item of the

database being written to the screen, and you can stop them flashing past your eyes by pressing, surprise surprise, STOP and any key to resume. If there's something wrong you can go back and adjust your main document until everything looks right.

To print the lot out, go to the 'print' menu as above but set up the document using the 'set up printer' option. You'll probably want 'number of copies' as 1. The rest of the options should be reasonably straightforward, though unless you have a recent copy of Mini

Office, read the margin note!

When you do get it right, you can relax and let your PCW and printer do all the hard work churning out the letters.



Never used the word processor?

The word processing module would need a whole tutorial series by itself to cover completely. If you're just doing a straightforward mail shot letter, you can probably get by on your wits and just the cursors, tabs and delete keys. Loading and saving files is done by EXITing the word processor menu and going through 'Load/Save'.

Snug as a...

Yes, yes, we know! There are a number of reported bugs in early versions of the word processor. You can't say manufacturers Database Software, get a free upgrade by returning your bugged version to them with a covering letter. Database's number is 0825 878688.

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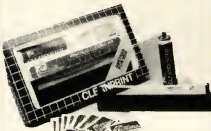
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"The manual is very good. It has been written, like the program, in any easy to understand and style ... very good value for money" ... Amstrad Professional Computing, June 1987

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HELP FOR BASIC PROGRAMMERS



JUMBO

Anyone who has dabbled with Mallard BASIC will have come across the moment of truth when they just can't remember - what is the difference between SPACE\$ and SPC, which number is which after MIDS, or even, how do you switch on a switched-off cursor blob? Maybe there is someone who can remember every command in Mallard but they certainly don't work for 8000 Plus.

Now, since the launch of the Jumbo disc you have two choices. 1) You can use the old method of spending 10 minutes looking for the BASIC method, another five minutes finding the right command other 15 minutes discovering you're still not totally sure of the syntax and a final 20 minutes working out how it works by trial and error. By which time of course you have probably forgotten what you wanted to do in the first place. Or.

2) Use Jumbo and find out what

the command does in minutes. Jumbo is simply a disc with nearly 200 files listing every command in BASIC including a few you haven't even heard of. The idea is that when you get stuck for the right command or syntax you just call up the directory (type d). This is in effect a list of file names

HELPMATE FOR ALL PCW OWNERS

If you want to find out what Fetchkey\$ does you check the list and find that the file with the details on this command are kept in a file name FKEY (you just type in the capital letters from the name FetchKEY\$ becomes FKEY). Then just write type fkey and the file appears.

It has all the Jetsam commands, a file listing all the escape codes for useful functions (everything from reversing the screen to defining a window) and a file with the full ASCII code and character set. There is also a page of keywords on various topics and a run-down on the bit-wise operators (AND, OR etc). The advantage is you call these up without affecting your working on the program.

The idea is basically so simple you feel as if you could do it yourself. There is no program or anything too clever - it is simply the basic (or BASIC) facts simply laid out with

an example where suitable (by far the best way to understand them). A simple way to learn BASIC

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Few PCW owners have made the great step into the world of comms. It's a chicken and egg situation; until more people get into E-mail (electronic mail), is it worth the money and effort?

Perhaps part of the reason is the elitism that is so much a part of comms. Whether it is done on purpose or not, logging on to the average bulletin board can seem maliciously obscure and complicated to the novice. There probably is a reason why users should have to remember a code like 'A21920100472' but, as it is never fully explained, it does seem a little like bloody-mindedness.

The expert, steeped in 'baud rates' and 'protocols' can easily take in the sophistication of the new Microlink multi-speed modem. But there is definitely a need for some modem supplier to take the hand of nervous commis-illiterate beginners and lead them through the terrors of those early days.

All you need is cash

Microlink's package has everything the beginner needs. The basic ingredient is a multi-speed auto answer/auto dial, fully Hayes compatible modem – probably better known to the comms world as the Pace Linnet. But you also get the software you need and the cables to link it to an RS232 interface, which can be supplied for only £39 if you require it. You even get a free month's subscription to Microlink's bulletin board – an ideal way to see what use you would make of it. For the existing comms enthusiast, already set up with this equipment and subscriptions, this would be a waste.

The software, a cut down version of Mini Office Professional with just the comms program and the word-processor, is certainly one of the easiest to get to grips with. Fully menu driven, it is reasonably easy to work out what most of the commands do by trial and error – just as well given the notoriously unhelpful manual.

The world of computer communications is an alluring one. Connect your PCW up to the telephone network with a modem, and you can instantly access stock market prices, airline travel information, business data and much more. 'Everything you need to go on-line' says the publicity material for Microlink's new communications pack. Is this the package budding comms freaks have been waiting for?

There are neat features like the key definition files which allow all these long complicated codes for Microlink or Prestel to be saved on a file. Load that before you start, press the right key and out comes the correct stream of figures and letters. Sadly the documentation is again unhelpful. While it was easy to save a key definition file to disc it seemed impossible to find it again unless you called it 'SETUPKEY'. One called 'PRESTELKEY' just doesn't seem to show up on screen in the 'Load File' section although you can still load it if you can remember the name.

Like most good software packages there is a section that allows you to configure your RS232 to the correct baud rates, parity, stop bits and all those other things you don't understand. But better still there are six preset options for Microlink or Prestel which you can choose in seconds.

Absolute beginners

The main problem for a beginner using Mini Office is that there is just not enough information in the documentation for the beginner to feel totally confident. For instance in the section on buffers it is fine to know that the Buffer Control "will allow you to make far better use of your communications link in Dumb TTY and VT52 modes (not Viewdata)" but unless you are told exactly how you do it, you could come away feeling strangely unsatisfied.



Save on a packet

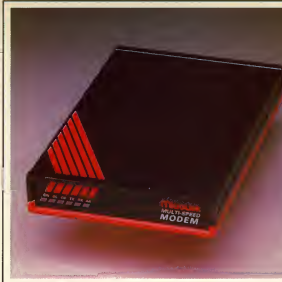
Time is money. The longer you take to do anything the bigger the telephone bill or the connection fee to a bulletin board. One way to offset the charges is to log on to PSS (Packet SwitchStream, a British Telecom service). These services allow you to patch into a bulletin board like Microlink for a small fee. The advantage is that they have local telephone numbers all over the country so you are only paying local rates. It certainly is more economic if you are going to be on line for a while.

ONTEST

Bulletin board

Bulletin boards have basically two uses. Businessmen can make use of the 'gateways' - a way of accessing all kinds of information, share prices, company news, and press agency reports. They can make good use of the E-mail facilities, an ability to quickly exchange messages with anybody who has a MicroLink mail-box (ie. is a member) or send a telex. They can book hotel rooms, check train timetables, book train tickets and even get legal advice.

Enthusiasts generally use it as a club. They can read messages left on notice boards (parts of the system given over to a specific subject), reply to questions or leave their own queries on the notice board.



▲ A typical screen from MicroLink

The same kind of problem carries on to the documentation for the modem itself. Very commendably it starts at the beginning and works its way logically through the process. But being all things to all men (ie. trying to cover use with any software) there is little to tie it in specifically with Mini Office.

One positive advantage is the auto-dialling. With less sophisticated versions you need a telephone handset to fit into the machine to hand dial a number. With this modem you can type the number in to your computer on screen and the modem automatically dials it and originates the call (a fancy way of saying it starts talking to the other modem). Better still, the micro-processor in the modem allows you to save up to 32 numbers - with a brief description to jog your memory. Simply by typing a reference number the full telephone number is dialled.

Used in conjunction with the key definition files in Mini Office you have by far the easiest way to log on to a bulletin board. It is not quite so bad if, for instance, you log on to MicroLink direct, but if you go through PSS (Packet

SwitchStream - see the margin note) you have to enter long streams of figures in the right order at the right time. Just put the phone number (with the correct command to get the computer to dial it) and each code on a different I-key and you can be through without taxing your brain cells in the slightest.

The other major sophistication is the automatic answering - the ability to leave the modem running to answer any phone call that comes in and receive a message from another computer. Comms is a twilight world; enthusiasts stay up into the middle of the night to make use of the services at cheap telephone rates. With this feature you can happily leave the modem set, go to bed and then examine to messages the next day, refreshed and relaxed.

But again this is marred by the sparseness of information in the manual. It is a powerful feature that definitely needs more explanation than is given. The manual gives all the information that the expert needs to get the most from the package so why isn't the beginner given the same help? It also doesn't help that all the information is spread over so many different manuals. You have to collate information from the Mini Office and modem manual and a booklet from MicroLink.

Setting the Pace

The package described here is the upmarket version of the Starter Pack. MicroLink also provides a cheaper pack with a two speed modem for £39. This is actually a rebadged version of the Pace Nightingale modem.

MICROLINK PLUS

- Features to aid beginner - auto baud rate setting etc.
- All-in-one package - modem, software and interface
- Sophisticated facilities
- Supports XMODEM and KERMIT

MINUSES

- Documentation is unhelpful
- No step-by-step instructions for starting up

RANGE OF FEATURES PERFORMANCE



EASE OF USE DOCUMENTATION



8000 PLUS VALUE VERDICT



Verdict

The modem is certainly sophisticated enough for anyone starting in comms (and most existing enthusiasts for that matter). As a complete package it should be the ideal start for a beginner. Sadly this hasn't been carried through to providing the instructions needed for the beginner to get to grips with the pack. A simple guide, with jargon explained, starting from setting up the modem, through the use of the Mini-Office software up to logging on to MicroLink would have made this package invaluable.

EX11

What is a baud rate anyway?

It seems ironic that a part of computer science dedicated to making communications easier should create such a breakdown in communications because of the use of jargon. It's not quite as bad as CB radio and at least you don't need to put on the phony American accent.

But it is still a major put-off to be confronted with terms like 'baud-rate' and 'protocol' without a translator on hand. In simple terms the baud rate is just the speed at which the characters wing their way over the telephone wires. If you see a baud rate of 1200/75 that means that you can transmit at 7.5 characters per second and receive information at 120 characters per second. Obviously the higher the baud rate the lower the phone bill but the greater chance of

mistakes being made.

The thing to remember about buying a more sophisticated modem like the one from MicroLink is that you can forget about the more impenetrable details. If you are receiving data from another computer it will sense what speed it is coming in at and adjust automatically.

It can be set to one of three speeds, 300/300 baud (sometimes called V21), 1200/1200 (V22) and 1200/75 (V23), which by a strange quirk of fate turns out to be the choice of rates that MicroLink and Telecom Gold offers. This also covers Prestel which only runs at 1200/75 although the modem does handle the Viewdata 1200/1200 and 2400/2400 rates which will be available on Prestel some time.

Protocols are a clever method of making sure that the text you send or receive is not corrupted by noise on the telephone line. This is done by breaking the text into chunks (128 bytes) and sending an internal check digit after each section. If the receiving computer comes up with a different internal check digit it quickly works out something is wrong and starts again.

Mini-Office Professional can handle the two best known protocols, XMODEM and KERMIT (no relation to the Muppet) and you can also send text in pure ASCII form with no check or in Expanded ASCII form which allows 7-bit systems to handle 8 bit information. Again the important fact is making sure you are using the same protocol at each end.

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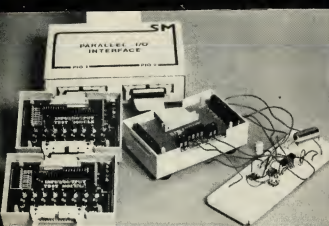
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CZECHING OUT THE PCW

Dr Stefan Rybar tells all about PCW life in the East Bloc

Accent note

At the beginning those elusive accents and other accents so vital in Czech were forgotten since LocoScript 1 was unable to reproduce them. Miraculously, LocoScript 2 does it all now, and even in kroner the £20 price tag wasn't too crippling – you can't imagine how important these apparently insignificant marks are!

In Britain you own more personal computers than any other country. No matter how happy you are with your PCW, let's face it, you're just one among many: half a million PCWs, three quarters of a million PCs.... And most of you probably use computers at work.

But imagine yourself in a country where Spectrum rules supreme, facing only feeble competition from Commodore 64 or Atari. In conditions like that the PCW has come to be idolised, an instrument of revolution; at home, at work and in the computing education of an entire country.

In the summer of 1986, I found myself in Britain. Not as easy as you might think, but thanks largely to the Helsinki accord and an invitation from my sister who's married to a Brazilian, there I was. I knew instantly what I was soon to buy and my wife, equally enthusiastic, sacrificed any thought of renewing shoes and make-up for the forthcoming year as she contributed something like half an average annual salary towards payment of the Amstrad 8256.

Even the duty fees to bring my machine back into Czechoslovakia were not entirely negligible but I had my personal computer word processor and a printer. I work as a TV editor in the educational department and as such have to write about 40 pages worth of scenarios every month – in quadruplicate. And copiers are not very thick on the ground here, even if you can get permission to use them! Needless to say I enlisted the help of my PCW the very next day following my return.

whose potential was a completely unknown quantity. What I quickly proved to a lot of sceptical people was that the computer offered very real help in cutting down paperwork and making organisation easier. Even Gorbachev admits that there's room for improvement.

To cut a long story short, I was quickly voted the resident expert on computers and became the host of an educational programme on computing for secondary schools – thirty half-hour episodes, which meant a lot of writing to do! Scripts started pouring out of my PCW. No matter how sensibly I told myself that using an Amstrad was one of the simplest things on earth to do, I still felt for a short while the euphoria that must swamp an inventor on the brink of an important discovery.

Other improvements were soon self-evident, proving that perhaps after all I did merit my newly acquired fame. Everybody began to take note of the sudden order that the PCW had imposed on my life.

Normally a very disorganised person, I fell an easy victim to LocoScript's friendly command-lines. Soon, after cracking the enigma of layouts, settings and templates, my PCW was to prove a powerful tool in getting to grips with bureaucracy and red tape. Paper hurdles cleverly constructed to bring the television editor to grief were quashed, reduced a matter of seconds for the printer. Even now, it gives me the greatest satisfaction to spit out things like that dismissively in draft quality, reserving the high quality facility for all my more serious work.

Spreading the word

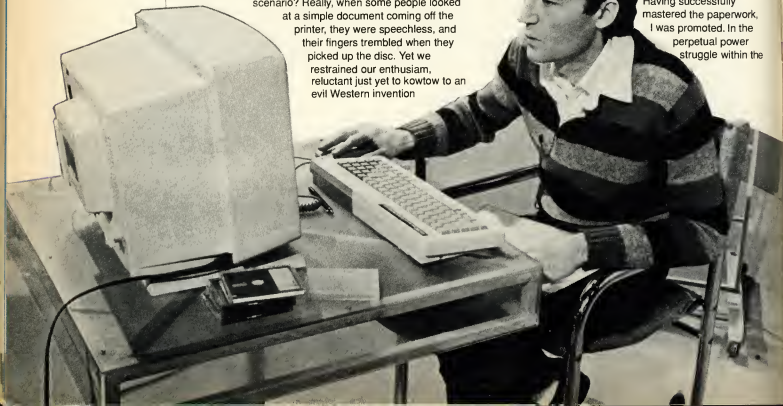
How can I share with you people who live in a computer-saturated society the effect of that first computerised

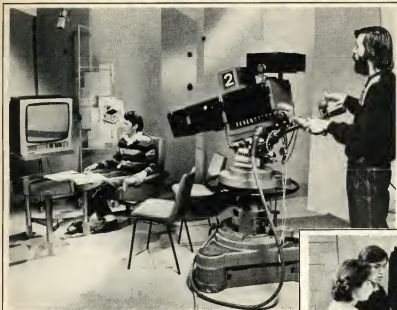
scenario? Really, when some people looked at a simple document coming off the printer, they were speechless, and their fingers trembled when they picked up the disc. Yet we restrained our enthusiasm, reluctant just yet to kowtow to an evil Western invention

Moving up

Having successfully mastered the paperwork, I was promoted. In the perpetual power struggle within the

▼ Ah, so that's what ERA * does.





▲ On air



▲ Who needs a photocopier anyway?

department, the PCW began to assume the importance of a precious and fearful weapon. It was, for example, impossible to lose a memo, letter or script once it had been created. Even more alarming, it could easily be reproduced at any time and serve as proof to any statement made six months earlier and long-forgotten by everyone – except the PCW!

But don't let me create the impression that I myself became a bureaucrat. Writing is still the source of my income and even there the PCW is doing its best to pay for itself; mind you, it had probably already done that because my productivity had increased by about 100% – with an added bonus: being able to have more than one project on the go simultaneously without getting sidetracked.

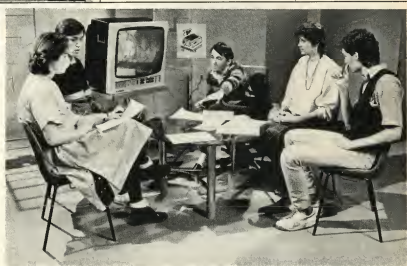
Apparently there are over 150 computer magazines in Britain; in Czechoslovakia there is one, *Elektronika*. Of course it covers all machines, and as a result has a circulation of over 150,000. I managed to write about the success of the PCW in that too, and even quoted the over-the-counter UK prices of the Amstrad models, something normally unheard of.

Even my wife, who's a translator, began to use the PCW and her productivity increased as well. That's when I first faced the problem of time-sharing, but after ten years of marriage, there had been worse crises to contend with than that.

Improvisation

That's not to say, however, that there weren't problems. Getting into computers means learning and that means software. How do you explain what a spreadsheet or E-mail is without actually having access to them? Well, the next best thing – and I should know – is being able to read a decent magazine. And having an extensive knowledge of the only program you've got – LocoScript 2. Believe it or not, with just a little cunning it is possible to give a viewer a fairly accurate idea of what a spreadsheet is by mastering only Block and Paste facilities. After the February '88 issue, however, I was able to get one from Listings Plus – since then I've also made great use of the spell checker and mail merge programs that appeared in those pages.

E-mail proved slightly trickier to demonstrate, when we had no modem, no RS232 interface, no communications software and no connecting cables. We managed to fake a decently-shaped artefact closely resembling a modem and



▲ Checking the script

Czech facts

Anyone know about Czechoslovakia? It's definitely behind the Iron Curtain, there were some troubles with it in Munich before World War II, and more recently some difficulties with the Russians and Dubcek. Oxford graduates might add that Shakespeare

wrongly placed it by the sea, and beer drinkers may have heard about Pilsner without stopping to think that Pilsen is a town in Czechoslovakia, not in Germany. And, at the last count, there were at least seven PCWs in the country!

again Listings Plus came to the rescue. This time it was something like Telex Type. True enough, not exactly E-mail but even you lot over there can't always have it all, let alone a Czech television viewer. As there wouldn't be anyone else in the country with a modem to send E-mail to anyway, maybe I'm not missing that much.

There are a lot of stories behind my PCW. I could tell you about furtive border crossings in cars with back seats removed to accommodate PCWs; about the desperate search to get hold of software, and the joys of seeing a dubious copy of DR Draw; about the rumours that someone in Slovakia had the Desktop Publisher; about the black day when I somehow got hold of extra memory chips to do an upgrade through the friend of a friend, but they were the wrong type and nearly killed off my PCW...

We get very jealous seeing all those packages. We'd love to get hold of Stop Press, Hitch Hiker's Guide To The Galaxy, Head over Heels, joysticks, digitisers, databases, spreadsheets...but why? After all, it's fun to struggle with the smattering of software we have, and, to be a big fish in a little pond. The PCW has been my personal revolution.

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CP/M is a distrusting operating system. Whenever you type in a command like `ERA *.*` it asks you to confirm with a Y or N. The trouble is that after a bit you get so used to pressing Y that one day you end up wiping clean a disc which had the only copy of last year's accounts on it.

The answer is to make that file unerasable – to set it to 'read only' status which means you can read it and copy it but not write to the file – ie. you can't wipe over it. But SET can do much more than that.

First insert your CP/M work disc and type `PIP M:=A:SET.COM`. If you get one of those helpful messages like 'file not found' or the terse 'PIP?' then try it again with your CP/M master disc. Now you've got SET in the memory you can start to tinker with your data discs. The following assumes you've used SETDEF in your PROFILE.SUB file to instruct CP/M to look in the memory to find things, as well as the drive it's using; it'll do this if you've renamed the file PROFILE.ENG as PROFILE.SUB. If not you'll have to type `M:SET` where SET occurs.

Insert the disc to be protected in the drive – type `DIR` if you want to know what's on it. Suppose in amongst the junk there's a file called ACCOUNTS.87 which must not be erased under any circumstances. Just type `SET ACCOUNTS.87[RO]`. This makes it safe from erasure until you make it 'read-write' with `SET ACCOUNTS.87[RW]`. This will protect LocoScript files from erasure under CP/M, but you'll still be able to erase a so-called would-be 'read only' file in LocoScript.

Smash the system

SET can also make files into 'system files' – these are files which exist outside groups and float around in their own space. They don't show up on directories (save for a 'SYSTEM FILES EXIST' message) and won't be seen by PIP to be copied unless you end the PIP command line with [R]. The main use for this is if you're working in different user groups, a system file is always available. So making PIP a system file is a Good Thing because if you decide to go off into group 12 you can still type PIP without getting that dismissive PIP? spat back at you (which you would get normally with PIP sitting in group 0). The command to do this is `SET PIP.COM[SYS]`. You can combine this with the above commands as in `SET PIP.COM[SYS,RO]` which systemises and read-onlyises the file. To bring a file back into the corporeal world of groups type `SET PIP.COM[DIR]` (for 'directory'). You can make whole discs read-only, for example, `SET B:[RO]` or read-write by `SET A:[RW]` and so on.

Now, you may think this is quite a lot to be able to do, but it's just peanuts compared to the rest of SET's functions.

```
A>dir
A: SECRET .PLM; ACCOUNTS.87
A>set accounts.87 [ro]

A:ACCOUNTS.87 set to directory (DIR), Read Only (RO)
A>era accounts.87
A: ACCOUNTS.87 Not erased, Read Only
```

▲ Setting a file against accidental erasure

GET SET

S is for Security, E for Erase-proof, T for Time-stamping – put them all together, you get SET

```
A>set a: (protect-on, name=Doris)
```

Label for drive A:

Directory Label	Passwords Req'd	Stamp Create	Stamp Access	Stamp Update
A:DORIS	on	off	off	off

```
A>set a: (password=oph)
```

Label for drive A:

Directory Label	Passwords Req'd	Stamp Create	Stamp Access	Stamp Update
A:DORIS	on	off	off	off

```
Password = OPH
```

```
A>set accounts.87 (protect-write, password=gerbill)
```

```
A:ACCOUNTS.87 Protection = WRITE, Password = GERBIL
```

```
A>set secret.plm (protect-read, password=zho)
```

```
A:SECRET .PLM Protection = READ, Password = ZHO
```

▲ Setting a name and password for a disc, then a password for a file

```
A>type secret.plm
```

```
Password:
```

```
CP/M Error On A: Password Error
WDOS Function = 15 File = SECRET .PLM
A>
```

▲ The result of getting a password wrong (note it isn't typed on to the screen)

You can set passwords and generally have great fun making it impossible for anyone to access them in any way if they don't know the correct password – including yourself if you have forgotten it. See the margin note though.

CP/M allows you to specify a password for each file on a disc, without which you cannot copy it or access it at all. Well, in theory. In practice it wouldn't put off the Special Branch from finding out all your shady insider dealings in GUINNESS.87 so don't rely on it too much.

First you have to tell CP/M that you're using passwords on the disc in question with the command `SET`

A: [PROTECT=ON] or whatever the drive is. Now you have to decide on a password for the disc – otherwise anyone can easily turn off the file protection with the command `SET`

A: [PROTECT=OFF]. If the password you choose is ENIGMA you type `SET [PASSWORD=ENIGMA]`. You can also label the disc with a name, so to call your disc 'Doris' you'd type `SET [NAME=DORIS]`.

Wildly exciting

You can use wildcards with SET (just as you can with most CPM utilities). An asterisk can stand for anything and a question mark for any letter, so for example `SET *.87[RO]` would make all files ending in 87 – ACCOUNTS.87, TAKODDGE.87, SECRETS.87 etc. – read only. `SET *.1[SR]` makes all files on the disc read write, and `SET ACCOUNTS.*[DIR]` makes ACCOUNTS.BAK, ACCOUNTS.B6, ACCOUNTS.87 etc. all directory files.

A command like `SET *.??[RO]` protects all files ending in two letters – ACCOUNTS.87 for example but not ACCOUNTS.BAK. Similarly specifying `AOC?????87` would work for ACCOUNTS.87 but not ABCDEFGH.87 but not ABCDEFGH.12

Other programs

Note that protected files simply won't run in BASIC. New Word won't recognise them, and Protect has its own protection facilities. Mini Office won't load password protected documents so SET can be used with Mini Office files.

LocoScript note

LocoScript, being a non-CPM program, doesn't recognise passwords set in CPM. So, if you have forgotten the password you set for a file you now can't get into, all you have to do is run up LocoScript and insert your protected disc. All the files show up in group 0 (unless they're system files - unsystemise them with SET as above).

Now use the copy facility (F3) to make a new version of the protected file in group 0 with a new name, then erase the old file. When you run CPM up again you'll find your file unprotected.

```
A>date
Wed 12/15/82 20:09:50
A>date set

Enter today's date (MM/DD/YY): 06/12/88
Enter the time (HH:MM:SS): 03:08:00
Press any key to set time k

A>date
Sun 06/12/88 03:08:06
```

▲ Using DATE SET

Name: pass

Now you can go ahead and set passwords for individual files, eg. SET SECRET.PLN [PASSWORD=MAGMA] makes the password for the file SECRET.PLN 'magma'. Suppose this is a simple text file whose contents you could normally find by

```
Initialise at:

INITDIR WILL ACTIVATE TIME STAMPS FOR SPECIFIED DRIVE.
Do you want to re-format the directory on drive A: (Y/N)? y

Directory is password protected.
Password, please. >pass

A>set access=on, update=on

Directory Label
Password ?

Label for drive A:

Directory Password Stamp Stamp Stamp
Label Label Read Create Access Update
A:DRIVES on off on on
```

▲ Initialising the disc with INITDIR

listing it out on the screen, ie. by typing TYPE SECRET.PLN. If you try to do this now you'll be prompted for the password and failure to deliver means the function is aborted. This will happen when you try to copy it, type it to screen, erase it, rename it or write to it.

You can go ahead and set individual passwords for all files if you like, but it's probably easier to set all files on one disc to have the same on with SET * * [PASSWORD=DOGMA] or whatever.

Perhaps you don't mind people seeing what's in your files, you just don't want them tampering with the contents. You can do this by typing SET SECRET.PLN [PROTECT=WRITE]. Similarly, [PROTECT=READ] requires the password for reading (ie. anything at all) while [PROTECT=DELETE] requires it only for deletion and [PROTECT=NONE] removes the password. A new password can be set by [PASSWORD=STIGMA] and setting the new password as blank by [PASSWORD=] (yes, there's a [RETURN] straight after the equals sign!) also effectively removes it. You have to give the password before you can enact any of the above commands, of course!

END

```
A>dir (full)

Scanning Directory...
Sorting Directory...

Directory For Drive A: User 0

Name Bytes Recs Attributes Prot Update Access
-----
ACCOUNTS 97 11k 86 Dir RD Write 06/12/88 03:15 06/12/88 03:15
SECRET 3 11k 86 Dir RD None 06/12/88 03:15 06/12/88 03:15
SECRET 3 11k 81 Dir RW Read 06/12/88 03:13 06/12/88 03:13

Total Bytes = 33k Total Records = 253 Files Found = 3
Total 1k Blocks = 53 Used/Max Dir Entries For Drive A: 7/ 64
```

▲ The full directory - note the time stamps

Time marches on

CPM also has a variety of time-stamping functions. You can stamp your files with the time they were created, or the time they were last updated (ie. written to), or the time they were last accessed (ie. written to or read). First in addition to SET you'll need in your memory (use PIP as above) DIR.COM (side 2 of your system discs on an 8000) and INITDIR.COM and DATE.COM (side 3 on an 8000). Unless you've used SETDEF as above you'll need to prefix all these with X: when you use them.

Your PCW has a clock built into it, but whenever you turn on the PCW it thinks it's Wednesday 15th December 1982. This has nothing to do with Creation theory but is some important event in the CPM calendar. So, unless you have a 'real time clock' (a box which fits on to the back of your PCW and tells it the real time, see Quikies this month) you'll have to set the time manually every at the beginning of every session on the PCW.

On starting up, type DATE SET at the A> prompt. Give the date (day first, then month, then last two figures of the year - remember CPM was invented in America) eg. 13/06/88 then the time. You actually press a key to set the time after you've entered it, so

give yourself a few seconds' breathing space. If it's seven minutes past three in the morning, you'd enter 03:08:00 and press any key on the stroke of eight minutes past.

Now you can display the time whenever you like by typing DATE. DATE C displays it continuously until you press a key. Switching off the PCW resets time to 1982.

So your PCW can now tell the time, almost as well as a £2 digital watch. Great. But now you can use that DATE facility for something useful - marking your files with the time you created them, or 'time stamping'.

Put in the disc with the files to be stamped and type INITDIR A: or whatever drive it is. This will alter the disc to allow time stamping to occur. Confirm it with Y[RETURN] and don't worry if there are any files already on the disc, they won't be erased or anything!

You have three stamping options: creation time, update time, and access time, and can combine some of these. Recording update and access is the most useful combination.

To do this type SET [UPDATE=ON, ACCESS=ON]. From now on all your files will be 'time stamped'

(obviously not retrospectively). Typing SET [CREATE=ON] would just record the creation time of each file.

Create a new file on the work disc - say just copy a file and give it a new name - and do a full directory of the disc with DIR. (FULL). You'll see the times of each file listed out. It'll also tell you if any of the files are password protected, whether they're directory or system files, and whether they're read only or read-write.

Note that if you do another DIR (FULL) now, the 'access' time has changed - a directory listing counts as an 'access'.

This can be a really useful facility; you can tell which files you haven't used for a while (and therefore which ones are the most likely candidates for erasure) and can check that updates are being carried out when they should (eg. for accounts files or databases). However you must remember to initialise your disc with INITDIR and must set the date and time every time you start up the PCW. You can only put 46 files on a time stamped disc (not 64 as normal). Time-stamped directories can also be an unpleasant reminder of how quickly time passes.

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LAUGHING MATTER

Think you could write comedy?
Bill Matthews
gives you some very
serious advice

Comedy writing is perhaps the most accessible of the writing media, and remember that it may take months to write a play, and years to write a novel, but it only takes a second to think up a joke. The joke will probably be dreadful but you can't have everything. And once you've had a line or a sketch broadcast, and got your credit at the end, you're well on the way to being as famous as me, whoever I am.

The majority of comedy writers start in radio (some, like me, stay there). The two programmes that are most accessible for those starting out are *Week Ending* on Radio 4 and *The News Huddlines* on Radio 2. Both are sketch-shows, but have a portion of the programme dedicated to topical one-line jokes based on the week's news, often the sillier items – and to write these is the easiest way to get that first credit. Both have specific formats which you should adhere to when submitting material. Basically, you begin with something true (the set-up), and end with something made up (what we doyens of the comic mode term "the joke").

Here comes the best piece of advice I can give you. *Listen to the programmes.* Both *Week Ending* (deadline Thursday) and *The News Huddlines* (deadline Wednesday) are based around news stories of the week, and are strictly topical. When writing both lines and sketches, have in mind the style of the programme, and try to stick as closely to it as possible. An original angle or format for a sketch will give it a better chance of being broadcast, but don't try to subvert the whole style of the programme. You can only change from within.

London calling

The majority of lines are sent in through the post, but most sketches that go out are by writers who come into the BBC itself, get feedback directly from the producers, and perhaps re-write their sketches before they are accepted. So if you are set on writing comedy for radio, London is the place to be. But here comes more obvious advice. Don't give up the day-job, pack your bags and head for the streets paved with gold until you have had positive encouragement from producers, and you are confident that in time you can make a success. Then again, don't expect success to be instant. Don't give up after one week, but give yourself time to get used to the feel of the programmes and to your own style.

All writers are used as freelances; signing a contract does not make you an employee. If you are serious about wanting to be funny, my advice is to join the Enterprise Allowance Scheme as a comedy writer, and set yourself up as self-employed. You will be paid £40 a week for a year, with no restrictions on your earnings.

The Light Entertainment Department (Radio) of the BBC is along one corridor in 16 Langham Street (opposite Broadcasting House) in London. The producers' doors are always open (except when they're shut), and the atmosphere is of informality, approachability and nitrogen mixed with oxygen. It may seem daunting at first, but



Loads of money

You may have gathered by now that comedy writing does not guarantee you a season ticket on the gravy train. The levels of pay at the BBC – in both radio and TV – are a constant source of complaint among writers. A new writer will be offered £15 a minute for material broadcast, plus 65% of the original fee if the programme is repeated within a week (as most are). Fees go up in relation to both experience and success, so that an established writer might be on a rate of anywhere between £20 and £30 a minute.

Payment for lines is £7.50 each (£12.38 including repeat fee).

TV comedy on the BBC (without the repeat) is, curiously, even less well-paid for beginners. You might expect to start on £21 a minute. Once you're established in TV, however, the rewards escalate more rapidly than in radio. ITV comedy pays much better – anywhere between £50 to £100 a minute, depending on the ITV company. Question – in that case, why do I still write for the BBC? Answer – Bill who?

the natives are friendly if approached. At the end of the corridor is the Writer's Room, which is full of newspapers, ashtrays, old scripts, and forgotten hacks left over from the days of ITMA.

It is in this room that the Week Ending Non-Commissioned writer's meeting takes place every Wednesday at 1pm. Absolutely anyone – except perhaps Colonel Gaddafi and Ted Rodgers – is welcome. The BBC being a rigidly hierarchical organisation, you have to start off at the bottom – with a status somewhere between the teaboy and a piece of fluff on the carpet.

Commission impossible

The difference between the commissioned and the non-commissioned writer is that the latter hands in material without being asked, whereas the former has a contract to write for the programme and gets his or her name in The Radio Times. To get that first commission is the next breakthrough for the ambitious comedy writer. But the rumour that commissioned writers also earn the privilege of sitting in their own mess is unfounded, as anyone is allowed in the Writer's Room.

How to be extremely funny

This is less a 'How to be...' than a 'What to do...' article about comedy writing. It's a craft that has to be learned – by making your own mistakes and realising why they are mistakes. It's a balance between competence and inspiration, between formula and originality. You can sometimes get away with format jokes (eg. Esther Rantzen has big teeth, Princess Diana is thick, Lord Hailsham is old, Fergie is fat, pot noodles aren't very nice, Oliver Reed drinks a lot, Barratts make small houses) by fitting them into new contexts, but

the best jokes are ones that add a new twist, hit an original target or are flights of the imagination. Or anything about Gyles Brandreth. Comedy is all about recognition – now where have I heard that before?

Here are two formula Week Ending sketches, both featuring Mrs Thatcher and Douglas Hurd, and which make quite obvious points. But one of them is 'bad' and one of them (in my opinion) is 'good'. See if you can spot the difference.

One:

FX: DOOR

HURD: You wanted to see me, Prime Minister.

THATCHER: Yes Douglas Hurd, what is it?

HURD: It's about this report on page 17 of the Guardian about our policies on the inner

Cities having a terrible effect on the health of the people who live there.

THATCHER: Oh so then our policies are working after all.

HURD: Yes, that's right, Prime Minister.

Two:

HURD: Prime Minister, I'm under great pressure to do something about the Moonies.

THATCHER: The Moonies, Douglas? Why are they a problem?

HURD: Well, they take complete control of people's personalities and brainwash them into following every command.

THATCHER: (Menacing) Really Douglas, I don't see what's wrong with that.

HURD: (Monotone) No Prime Minister, neither do I.

Getting a commission (this is a theory), opens the way to other work within the department. Other radio programmes aren't so easy to break into for those starting out, as they are usually fully commissioned already. But there are ways of finding out what programmes accept speculative material. If you look at the credits in the Radio Times, and see the magic phrase "and others" at the end of the list of writers, it's worth sending in sketches. However, if only one or two writers are mentioned, then it's a waste of time and effort to send anything in. Another way of discovering what outlets are available is to phone or write to the producer of the particular programme (ring 01-580 4468, and ask to be put through to the producer concerned).

Situation comedies on both radio and TV are never open to outside writers, but if you have already written your own sitcom, send it in with a synopsis, and the Script Editor will decide whether to commission you, whether it needs rewriting or, to be realistic, he may send it back. It is a better idea, before committing yourself, not to write the full half an hour's script, but to send in 6-10 pages of dialogue, along with a synopsis of the idea, the plots and the characters, and he will tell you if he is interested, and whether you will be commissioned to write the whole script.

Sketches by Bozo

Sketch shows on the BBC like Alas Smith and Jones, Naked Video, Les Dennis, The Russ Abbot Show and Little and Large (well, you can't be choosy), all accept unsolicited material. On ITV shows like Saturday Gang, The Grumbleweeds, and Kate and Ted (all broadcast early evening on Saturdays) are worth trying. However, if the man in the pub thought he could write better than that lot, he was probably right – but they wouldn't want to use it, they'd prefer a recycled joke instead. Who said crime doesn't pay? If you want to know in advance what forthcoming shows invite material, write to the Script Unit of the relevant company, and they'll send you a list.

The best bet on TV for the new writer used to be Spitting Image, which invites sketches of any length, and pays well. However, the programme has become increasingly the preserve of a clique of writers. But don't be discouraged by your cynicism. If your idea is original enough, it's in their interest to use it.

The most prolific ITV company in terms of comedy output is LWT, and much of their work turns up on Channel 4. This channel is where some of the best comedy on TV is found, yet there are few chances for the unestablished writer. Who Dares Wins and Friday Night Live, for instance, are closed shops. But if you have your own idea for a series, get in contact with Channel 4 and they will give you a list of Production Companies who may be interested in what you have to offer.

EX10



● Bill Matthews is 27 years old and has been writing comedy since 1984. He writes for *Week Ending*, *The News*, *Huddlines*, *Peter Dickson's Nightcap*, *Happy Hour* and a comedy spot on radio's *Sport on 2*, plus two sitcoms. He claims the record for the longest apprenticeship on *Week Ending*, writing for the programme as a non-commissioned writer for over two years before finally being commissioned.

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After writing Mallard BASIC, which arose from work on file handling and indexing they were doing on an accounts program, Locomotive were approached by Amstrad and asked to supply the software for their new 'PCWs'. They wanted a word processor which would be simple enough to follow for first-time computer users yet powerful enough for business and heavy-duty home use. After nine months' gestation LocoScript was born.

It was made as foolproof as possible – it automatically formatted everything as you went along, for example, and whatever sequence of commands you typed in, however convoluted or 'illogical', it would give the expected results: the worst that could happen would be a helpful error message. For beginners, the comprehensive system of menus was developed, but as users got more experienced, they could make use of the 'set' keys with the letters appearing in capitals in the menus: quicker than selecting 'UnderLine' from the menu was the typing of {+}JUL for example. As well as all this, there was LocoMail, a mail merge program, and LocoSpell, the spell checker and word counter.

Two time

The success of LocoScript encouraged the company to hit the commercial market with LocoScript 2. This answered the major criticism of version 1 – its notorious sloth – by including a 'jump to page' command (if you wanted to go to the end of a longish document from the beginning in Loco 1, you had to spend several minutes watching the entire thing wind through to the end) and added a staggering range of new characters plus the ability to use other printers without modification.

Since then has come Locochar, which allows the user to redesign up to sixteen characters and output them on screen and printer in all the high and draft styles available; and now come the extra printer sets and character redefiner.

The ability to use any printer has been a major feature of LocoScript 2. It will work directly with over 250 printers, thanks to the huge list of available 'printer drivers' – files which tell the printer how to interpret LocoScript documents – and the list is growing every week. If a printer doesn't have a printer driver available, Locomotive will advise on which is the nearest one to use; if the printer might be one a few people would use, they'll even write you a special printer driver for £15.

Good in anybody's language

LocoScript 2 is probably the most versatile word processor in terms of languages, characters, accents and printers supported that has ever been sold. It currently handles modern Greek, Cyrillic and mathematical symbols with ease

WRITING OWN

Rob Ainsley goes to Locomotive Software in Dorking for an exclusive look at the latest developments on LocoScript



Shredding of the five thousand

After a few problems with the LocoScript 1 manual, Locomotive wanted to get it right second time round, and the first run of the LocoScript 2 manual – five thousand of them – was pulped because they weren't thought quite good enough.

No remix

You can't mix sets in one document. This isn't for reasons of style but because it would be too difficult and too long. Locomotive say, to do the change over in mid-document.

9512 note

9512 owners are regrettably excluded from all this. The new fonts only work on 8000 printers.

LocoScript 2 was the first venture into the public marketplace for Locomotive Software, who had written LocoScript 1 for Amstrad. Now, in the wake of version 2's success, they're developing it yet further. The two very latest additions are a set of extra printer styles and a keyboard redesigner. Where is it all leading?



▲ Locomotive's programming room



▲ Think our type-in listings are long?

G THEIR Scripts

and can cope with every European language from Greenlandish to Russian. Even then, it seems, some people are never satisfied. "Our latest headache is breathing marks in ancient Greek," says marketing manager Howard Fisher. "We've had a lot of letters about it. The problem is that to cope with them properly you need multiple accents on one character, which we can't do just yet, but we're working on it." The designs of the current Greek and Cyrillic character sets were changed twice in response to feedback from scholars.

Anyone thinking that foreign languages in word processing are an amusing but trivial sideline should remember how spelt the American English speaking world is. Word processors for the individual or small business in other 'minority' languages (Russian, say, or Hindi, with around 250 million speakers each) just don't exist and the only option for those working in such languages or in those countries is to buy a 'foreign' word processor and do their best to adapt it if necessary. The market in foreign countries is certainly there and Locomotive are doing their best to exploit it. Closer to home, there's a new Welsh LocoScript, which has attracted a lot of attention from the Welsh media.

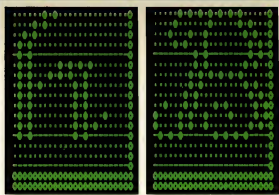
So what next? Is LocoScript going further East? Was that copy of 'Alphabets of the World' really someone's lunch break reading? Howard wouldn't be drawn, noting only that "there's a lot of programmers in here, and they're all working on something." Maybe it was just a trick of the light, but it seemed that some of the writing on one of the screens was going from right to left...

LOCOSCRIPT 2 FONTS

£19.95 • Locomotive Software (0306 740606)
• 8000s only

The tell-tale sign of any PCW document is that typeface. You can recognise PCW printout anywhere – indeed, literary agents and publishers are heartily sick of it by now. But, given a dot matrix printer, there's no good reason why you can't print out letters in a variety of styles to suit the document; all you need to do is change the dot patterns the printer carries for each letter.

There are, however some bad reasons. To cope with a full character set in screen, draft and NLQ styles requires a



▲ How it was done – the designs for a Copperplate 7i and a Script 8

lot of space – that's why sixteen characters is the maximum number redefinable under Locochar, the program which lets you design your own characters. Larger character sets are run through special compression programs which rewrite the set in a way more economical on space. So, if you wanted to design your own set, you'd need a very large computer plus the compression software to shoe-horn the set onto a three-inch disc.

Demand for variety of printer output is clearly there and so Locomotive decided to make available this extra set of styles. Designers were brought in, and using a program rather similar to Locochar plus those compression routines, they have been fitting extra styles onto the sixteen dot grid your printer limits you to. All the characters and accents – even the Greek and Cyrillic ones – are being represented in each font. As models for many of these characters are not available (what should an art deco Cyrillic character look like? Or a copperplate style Greek alphabet? Or a calligraphic circumflex?) language specialists have had to be consulted.

Easy does it

Using the new styles is very simple. So long as the file containing the style you want is in group 0 of the M drive, it'll be available for use. They have names like MATRIX.#RO, and any of them on your start-of-day disc will

LOCOSCRIPT

77% isn't bad

At time of going to press two of the extra sets were unavailable. These will be 'Locomotive' and another sans serif set.

Tomorrow and tomorrow to the last syllable of our discontent by a

▲ Standard

Tomorrow and tomorrow to the last syllable of our discontent by any other name would have died hereafter

▲ Roman

ow creeps in this petty pace from day there's the rub. Now is the winter of our discontent. To be or not to be, that is the question. But soft, my liege, O day that comes to find us out

▲ Script

ow creeps in this petty pace from day there's the rub. Now is the winter of our discontent. To be or not to be, that is the question. But soft, my liege, O day that comes to find us out

▲ Copperplate

to the last syllable of recorded time our discontent by any other name would have died hereafter. When shall we three meet again? But soft, my liege, O day that comes to find us out

▲ Sans serif – now added to LocoScript 2

ime, aye there's the rub. Now is the winter of our discontent. To be or not to be, that is the question. But soft, my liege, O day that comes to find us out

▲ Deco

OUR DISCONTENT BY ANY OTHER NAME WOULD SMELL AS SHOULD HAVE DIED HEREAFTER. WHEN SHALL WE THREE MEET AGAIN? But soft, my liege, O day that comes to find us out

▲ Capital

r discontent by any other name would smell as sweet. To be or not to be, that is the question. But soft, my liege, O day that comes to find us out

▲ Draft

LOCOSCRIPT 2 FONTS

PLUSES

- Eight new fonts, one coming for free
- All accents, characters and alphabets supported in every style
- Easy to use
- Cheap
- Can break out of that one-pattern printout

MINUSES

- Can't mix styles in one document
- Limitations of 16 dot pattern mean quality can't be brilliant

RANGE OF FEATURES

EASE OF USE

PERFORMANCE

DOCUMENTATION

8000 PLUS VALUE VERDICT



This lot is the assembly language listing for LocoScript 2

cp software

CLOCK CHESS 88

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"CLOCK CHESS 88 is a lively and interesting opponent. An aggressive program that keeps you on your toes ... it does up Colossus Chess nicely" Mike Basman, UK Chess Champion.

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- Experiment with sound routines.
- Direct access to Video RAM
- Discover hitherto unpublished low level hardware information, Ports and edge connector diagram.
- Easy to use from Basic, Pascal, Assembler, CP/M etc.
- Full source code supplied.
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"The program is very well thought through ... here's your chance to keep your hand in using Bridge mode... The Tutor teaches you the game as you play ... you get a full page of text analysing the whole game, explaining the bidding process and sequence of play.

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- timer, sound routines etc. etc.
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- all functions use simple-to-use BASIC keywords
- masses of demonstration programs supplied on disc
- "knocks spots off other basics"

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automatically be copied to drive M for you; any others can be copied using [F3]. You can have up to ten available at any time, which should be enough for most people.

You can check on the sets available by pressing [F6] in the disc manager and selecting 'Character sets'. To set up a document to be printed out in Roman, say, you would press [F1] for Document Setup while editing and take [F6] 'Printing'. The 'character set' option lets you choose a set for the document, and when you come to print it out, you 'change to style intended for document' when prompted.

The sans serif style (plus the standard) now comes bundled free with LocoScript 2. An odd side-effect of the space re-organisation necessitated by including both styles on the disc is that draft quality comes out better than before! Seven or so extra styles can be bought separately. Given the limitations of the sixteen dot matrix, the new characters come out surprisingly well, many people may well use the Roman set as standard and while the two 'handwritten' styles won't fool anyone, they still look pretty good. Of course they have to be used in proportional spacing or the result is very odd looking.

The new sets have been very thoughtfully put together and are an easy way to put life and variety into all PCW work from academic papers to news sheets to letters.

LOCOKEY

£14.95 ● Locomotive (0306 740606) ● All PCWs

The logical successor of Locochar, the program which lets you redesign sixteen characters in LocoScript to your own specification, is Locokey.

For anyone who wondered why the opening screen in LocoScript 2 had inexplicably gained a 'GB keyboard' message when they upgraded, all can be revealed. This is a keyboard customiser which allows you to make any key produce any letter, a little like SETKEYS in CPM. So all you Dvorak fans and French AZERTY standard devotees can reconfigure your keyboards without having to hack into the depths of the LocoScript system files with SID.

However, the program also lets you produce those Locochar-redefined characters with one key, so you can make [EXTRA]C produce your church symbol, or [S] produce your Chinese characters for Shark Fin Foo Yung, or [ALT] plus the numbers one to ten your border characters. Users of exotic foreign languages like Welsh can assign any combination of accent and letter to a key – so w-circumflex could be produced by the [key for example.

Shifty characters

The program itself is simple to use. You have a plan of the keyboard at the bottom of the screen and all the available characters at the top – you can select a Locochar-redefined set if you like. You have a 'Work' box containing an 'active' character which you can pull from either keyboard or character set and assign to any key in any shifted (SHIFT, ALT, EXTRA, SHIFT+ALT) or super-shifted state (the Greek, Cyrillic and Symbol super shifts). The [COPY], [CUT] and [PASTE] keys do the jobs of swapping and moving characters. Special functions let you switch entire sets automatically (to make the Greek characters standard and the English set go under super shift, for example). Into the 'Bin' box goes the last discarded character, which can be pulled out in an emergency. It'll even tell you if you've put any characters in twice or missed them out.

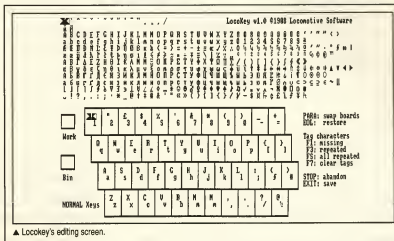
Font memories

The idea of extra fonts for LocoScript isn't new, of course. SuperType, from Digita (£24.95), gives you eight extra character sets usable in either CPM or LocoScript (SuperType II for LocoScript 2). Some of the fonts are similar to the new LocoScript ones (the four similar 'business' fonts are like Loco's sans serif, the 'vaudeville' like Loco's Deco) and some aren't (you also have outline, stencil and the usual old English styles).

All the fonts work in italic, draft, NLQ, bold etc., but of course they aren't supported across the range of all LocoScript characters or accents, as are Locomotive's fonts. They

have to be installed (just once) on your LocoScript disc which takes a few minutes and work in a slightly different way with the result that you can only really have four available at any one time.

It's a perfectly good package and if you already have SuperType you won't need the Locomotive fonts unless the different styles appeal to you – which they may well do. If you work with a CPM word processor such as Protext of course SuperType is what you want. On the other hand Locomotive's fonts are definitely the better buy for the LocoScript.



▲ Locokey's editing screen.

When finished, the new 'keyboard set' is saved under an appropriate name and the file put on a new start-of-day disc in place of the standard KEYBOARD.JOY (so your own 30-character message will appear in place of that 'GB keyboard' message). All you have to do now is put in the disc and switch on; the keyboard will produce the characters you assigned to it in Locokey without you having to mess around changing over character sets or setting up documents to expect this or that.

Locokey is a well-written program, quick and easy to use. It should satisfy all the requirements of those who like tinkering with the LocoScript setup and will be useful to anyone who needs funny characters or Locochar symbols in their everyday work. It's not the sort of thing you'd use more than a couple of times so it would be an expensive toy. It's a product with a particular purpose which will only be valuable to a few per cent of the PCW population – but remember that figure of one million PCWs round the world.

EXIT

Dvorak's new world

The standard QWERTY keyboard is, claim many people, dreadfully slow, being designed to slow down light-fingered typists who were too fast for their cumbersome nineteenth-century machines. An American called Dvorak proposed a more efficient distribution of letters which has never caught on but has many supporters.

He was no relation to the composer of the famous Symphony No. 8 'The Hovis'.

And then?

How you change the letters on the keytops once you've redesigned your layout is another matter. Enthusiasts have suggested Tippex or Liquid Papering over the tops followed by permanent markers and clear nail varnish.

LOCOKEY

PLUSES

- Enables customisation to Dvorak, Azerty standards etc.
- Handles any combination of accent and character
- Can swap whole sets of characters in one
- Works with Locochar characters

MINUSES

- Might only use it once or twice

RANGE OF FEATURES
PERFORMANCE

■■■■■

EASE OF USE
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- * Editor is program mode of Protext (as for C, above) *

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SPREAD YOUR SHEETS AND FLY

Alec Rae gives a few more hints on how to tackle your business accounts with a spreadsheet

In business time is money. So while you may agree that it would be nice to write your own accounts package on a spreadsheet, you may feel it is too time consuming.

There will be a bit of time involved in setting up your spreadsheets. But once this is done, by using a template-like system of matrices (that's the plural of matrix, not something you sleep on) you can re-use this initial work over and over again.

In the Cracker Turbo package used last month to set up the cashflow sheet, one really useful feature is the 'Macro'. This works a bit like a submit file in CP/M. You write a load of commands in a cell complete with [RETURN]s, and then simply by typing the cell number at the correct moment all the commands are carried out. If you have a list of commands too long for one cell just make the last command call on a macro in another cell.

You can create loops by calling on the number of a previous cell in the sequence or even the cell you are working in. This means the commands are carried out continuously until you stop it or until it comes up with an error (like reaching the end of spreadsheet).

So, for instance, say you decide to write the heading

preferred) while in the next column you might want the figures to go in a financial format (ie. with two decimal points).

This is necessary so that you won't start trying to add the words 'L. Bloom and Daughters' to £23.50 and subtract the date. Ensuring you have the entries set to the right format is one of the most time-consuming and frustrating aspects of spreadsheeting. This is where clever use of macros to run through your lay-out changing formats to the suitable setting is ideal.

'Amount' at the top of every third column. Go to a blank part of the sheet and pick a cell – say A10. Type in the commands to change the format in a cell to text (set right usually at the top of a column of figures) just in the same order as you would normally with a @ instead of [RETURN] (FTR@) and end this with a " and the number of the cell below, followed by a @ (*A11@) calling into play the commands that are listed in that cell.

Move down and enter the details you would normally use to type in the word 'Amount' and then move the cursor along three columns (Amount@RRR). End this cell by calling the first cell (*A10) and the process starts again until you reach the end of the line.

Let's get started

Macros come into their own when you are wanting to set up a certain layout. Say you simply want a sheet to keep track of the orders you took in a week. You would want perhaps a text column for the details, a finance format column for the amount and integer column for the account number.

With Cracker you always start with a totally blank screen so you have to create a couple of columns to work in. Set up a couple of columns in heading format about 20 characters wide to accommodate long macros. If the formula runs over the space available it will run into the next cell in heading format. In normal text format it will be cut off at the space available so it would seem as if you had lost the end of your formula.

In Crackerspeak the commands to do this are I2C20 – English translation (I)nsert (2) (C)olumns, width (20) characters – press [RETURN] twice and two columns one line deep will appear. Don't worry too much about having to remember these letters, as you are prompted as you go along. After entering I Cracker will show the word 'Insert' and then give you a choice of options '0-9, Column'. Here you can enter C for one column or a figure for a number of columns. Each stage is confirmed as you go along. Now insert, say, 25 lines, a reasonable screenful. You can add more later.

Formula writing

Then fill in the top formula as shown in fig 1. It may look at first like a jumble of letters but if you break it down you can see what's happening. The first line says (I)nsert one (C)olumn (12) characters wide (the @ is [RETURN]), with the format (T)ext justified to the (R)ight (all the text runs up to the right hand side). If you want a different width or format just run through the process in normal command mode to see what commands are required and then type those letters in the cell.

The last figure *A2 calls the formula in A2 into play. This simply enters the words 'Details' at the top of the column. The full stop is just the command you would normally use for

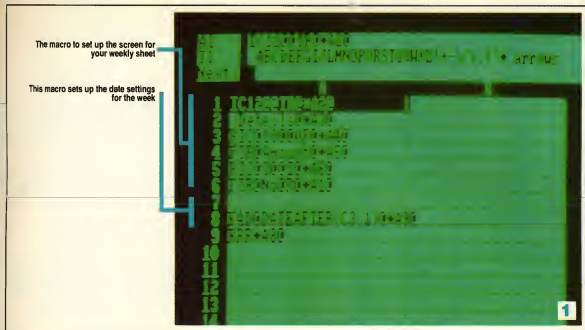
Format matters

Although you can write anything you want on a spreadsheet you still have to tell the program in advance what sort of thing you are going to write.

For instance if you want to write the words 'Account No' at the top of a column you will have to tell the spreadsheet you are going to put text in that box. The cell below will probably be a whole number (the account number) so you have to tell the computer to expect a whole number (though 'integer' sounds much more complicated so is



▲ Adapt the sheet to suit. Jump to the correct account using (J)ump.



entering text in a cell.

Again this ends by calling cell A3 which moves one space to the right and inserts the next column – this time a normal finance format column 10 characters wide.

As you are wanting to enter the word 'Amount' in a finance format column you would normally have to change it. So the next cell (A4) does this. `FT` means the (F) format should be (T)ext (R)ight justified. As this command puts you straight into the position where you would enter text you do not need the full stop you normally need to enter text in a cell. Again A5 inserts a small three character wide integer column and A6 adds the words 'No' for the account number there. This is only a suggestion of course. Choose the number, width and format of your columns to suit yourself.

Loop aper

At the end of the macro in A6 you will notice "A1". This calls the first cell and starts the process all over again. As you will probably want this sheet set up for five or seven days you want this series of columns set up across the page. There are two ways of doing this. Put a `@` at the end and the process will go on until you stop it, leave it off and the process will pause at the end of each cycle to wait for you to press [RETURN]. Do this the required number of times and you now have the right size of spreadsheet.

You probably won't want to have this right at the top of the screen (to allow for a heading and other details) so go down three cells move into the second column and type in "A1". The Macro then starts its amazing progress across the screen, adding columns as it goes.

You will also have two heading columns at either end of the sheet which you can use for notes to help you find your way about the sheet (see fig.2) by simply using `BC` (or blank column) the command to clear the entries. Or else simply remove the whole column with `ZC`.

Type in Monday, Tuesday and so on above each 'Details' column and save this layout under a name like Matrix so you can just call this up and have a blank sheet to start each week.

Adapt this layout as you want. You could have individual accounts in various places on the same sheet and then just copy all the relevant details to the correct account – see fig.3

EXIT



▲ Save this as your starting Matrix

Day by Day

When you call up your blank sheet on a Monday, wouldn't it be great if you could just enter the date in one column and have Cracker work out the date for all the other day's in the week. Well, you can.

Cracker has a wide range of features dealing with time – some of which are admittedly a little obscure in practice. But the one that is of most use at this moment is `DATEAFTER`. In Cracker the date should be entered in a certain form. For instance 106.1988 is the 1st of June and 312.1988 is the 31st December. It seems obscure but you soon get the hang of it. Of course to put this in a cell you have to set the format to four points decimal, `###(RETURN)`.

So if you put the date in cell C3 (above the first column of 'amounts') and then put `DATEAFTER (C3, 1)` in F3 (the next 2 amounts

column) the date for the next day appears in this cell.

To help you do this you can make another macro (see the lower macro in fig.1). Place the cursor in the cell F3 and start it running. This will put the same formula every three columns to the end. You then have to run through it manually changing the last digit in brackets). For instance for Wednesday you would have `DATEAFTER (C3, 2)` – two days after Monday's date.

Save this on your Matrix and when you start the week you just put the date in the right form in cell C3 (for example 3005.1988) and the whole week will be correctly dated. Remember to change C3 to be four points decimal format or you could have difficulty reading the date of course.

Turbo Powered?

There have been arguments about how much quicker Cracker Turbo is than the old Cracker 2. Certainly, everything being equal Turbo is faster for most functions. Obviously the bigger the spreadsheet you are working on the more time that is saved.

For instance loading a relatively small weekly report takes 13 seconds on Cracker 2 and 11 on Turbo. Recalculating the sheet took

10 seconds in Cracker 2 and 9 in Turbo.

In the complicated task of setting up the Matrix using macros you could save over a minute: Cracker 2 clocked in at 3 minutes 38 seconds, Turbo at 2 minutes 25 seconds.

On the other hand there were times when Turbo actually took longer. To draw a simple bar chart Cracker 2 took 1 minute 16 and Turbo took 1 minute 20 seconds.

PRINT BIG

Two poster printers – one a tenner, one for fifty quid. What's the difference?

POSTAFONT

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SIGNWRITER

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No matter how nicely your word processor prints out your words, there will come a time when you'll want to say something in letters 10 feet high (well 10 inches high anyway). Recently two additions have been added to your choice in this line – a new program, Postafont, and a new version of an old favourite Signwriter.

First it must be said that neither program is totally 'user-friendly'. If you have CP/M phobia and want something that will gently lead you through the process of creating and printing your sign, you might be better off sticking to

HOW DO YOU
LIKE
THE OUTPUT
FROM
DECOFONT

something like Tas-Sign.

And secondly you will have to accept that you will not be doing anything in a hurry (and that includes Tas-Sign). It seems that printing posters is always a long drawn-out process. However both programs seem to tackle different ends of the market quite successfully.

Cheap and cheerful

Postafont comes from the Advantage User Group for only £9.95 with a full manual and, as such, you can't really complain if it doesn't make life as easy as a slick program costing three times as much.

Initially, perhaps, it's easy to get bogged down in a rather tortuous method of working, but it's really simple once you get the hang of things. The major problem is that the commands to print the poster are contained in a text file you have to create yourself – no menus to gently lead you through. If you don't have a CPM word processor (like Proteus or NewWord) this means grappling with RPED the PCW's text editor. Not impossible but not exactly fun.

But if you make a mistake you have to go back to RPED to make changes. On the other

hand it is easy to ring the changes with five fonts which can give solid or hollow characters in one of

THIS IS THE OUTPUT FROM
Poster Printing

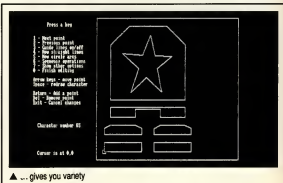
Animal note

The most original font in Signwriter is Zooland: a wide range of animal shapes although the choice of animal seems a little obscure. It includes lemons, cockroaches and narwhals while missing out vital animals like llamas and gerbils.



▲ Signwriter's design program

...adjusts the shape of the lemur



▲ ... gives you variety



six patterns
— all in the
same poster,
if you've got
the nerve. To
save you too many
worries when setting up,
there is a complicated install
program to run but this is still a
reasonably taxing exercise.



Another time-consuming feature of Signwriter is running Fontcalc, a program which produces a couple of files in M drive for the particular font to run from. You need these files to use Signin (the program to produce signs) or Signout (to quickly print out a sign from a file you have already created) but, once run, you can save these files to disc for fonts you will be using regularly. These then have to be PiPped into M drive when you start again

One possibility, especially with complicated fonts like Iconfont, where you probably only want one or two signs, is to put the 'font' file into a word processor, cut out all the stuff you don't want and save as an ASCII file before you run Fontcalc. This also saves some problems with loading that can be experienced with a complex font.

That'll fit!

One major advantage of Signwriter is the way it checks out that your sign will fit the space available as you go along. As you pick the size for each line it will tell you if you have sufficient space immediately.

The Advantage program on the other hand has no checking device (except calling it up on screen first) so you could discover that the line is too big only when you start printing out — a very frustrating experience.

There is an obvious difference in the quality of the finished product — as would be expected. Signwriter does produce the highest quality of all the signwriting programs, although it obviously does take a time to do this.

Verdict

Postafont — Ideal for a confident PCW user who occasionally produces a poster. The program will produce virtually anything you want and at the price you can't complain about.

Signwriter — For the user who knows exactly what he wants and won't be content with anything less. It is the only program that gives the flexibility and range of features needed.

EXIT

Power vs. friendliness

Signwriter is not too accessible simply because it tries to do so much. It is really written for machines with a bit more computing power than the PCW and sometimes this has meant a compromise between user friendliness and power — with the finer points of user friendliness usually losing out.

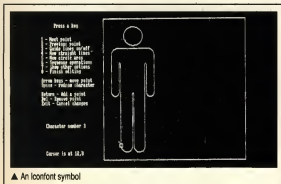
There are a number of programs on the disc and it is not always obvious at first what they are all for. Reading the manual does give you a clear idea of what is required but a simplified flow-chart style set of instructions would have been helpful.

Despite seeming limitations (for instance it can only handle one font at a time), Signwriter does offer the widest range of features of any of the poster printing programs. There are 20 extra fonts available including some quite imaginative ones.

Perhaps most exciting is the 'Iconfont' — a series of symbols with everything from a sign for a toilet door to the Taoist Yin-Yang sign — the only poster program that gives you the ability to do this.

DIY symbols

This can be taken further using Signwriter's design feature which allows you to modify the letters in a font, write your own font or even create your own symbol — say a company logo. This is admittedly about the slowest exercise possible on a PCW. The screen display is painfully slow but it is the only program of its type to do this so you really just have to live with it.



▲ An Iconfont symbol

POSTAFONT

PLUSES

- Unbeatable value
- Allows you to mix fonts and styles

MINUSES

- No warning if your poster is too big for the paper
- You have to have a text editor and create your own files to run the program

RANGE OF FEATURES

PERFORMANCE

■■■■■

EASE OF USE

DOCUMENTATION

■■■■■

8000 PLUS VALUE VERDICT ■■■■■

SIGNWRITER

PLUSES

- Allows you to redesign fonts and design your own symbols
- Wide range of interesting fonts including symbols

MINUSES

- Numbers of programs to run causes confusion
- Font design is slow

RANGE OF FEATURES

PERFORMANCE

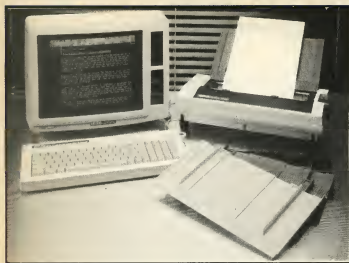
■■■■■

EASE OF USE

DOCUMENTATION

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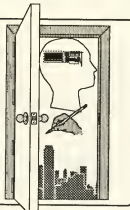
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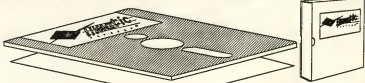
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ORGANISE YOURSELF

COMPETITION!



Amstrad owners are an upwardly mobile lot so it's no surprise that the personal organiser boom should make its way onto the old PCW. In conjunction with Kempston Data, 8000 Plus is giving away five prizes that should help all you yuppies, dinkies, woopies, yummies and noddies.

First prize is a Kempston mouse and interface (compatible with Stop Press and the Desktop Publisher) plus Datafax, normally £79.95. This program does all the functions you'd expect from your personal organiser - keeps a diary, names and addresses, notes and so on, and prints them out for you on special personal organiser-sized paper, which is supplied. The two second prizes are Datafax plus a vinyl binder, subject tabs and stationery (usual price £49.95), and the two third prize winners will receive the Datafax software plus stationery (usually £39.95).

Your mission

Here's what you have to do. Below are five 8000 Plus readers, lettered A to E, and five categories - yuppie, dinkie and so on - numbered 1 to 5. All you have to do is use your skill and judgement to match the character with the category - for example, if you think that Piers ffoulkes-Ccarrington is a dinkie, write "B-3" and so on.

Write your answers on a postcard or on the back of an empty sealed envelope and send your entries to: **Organiser Competition, 8000 Plus, 4 Queen St, Bath BA1 1EJ** to arrive by 6 July. Usual rules apply.

A Charlotte Malakoff
Works for a recruitment agency in Covent Garden. Lives with an advertising salesman in a flat in Hampstead.

B Piers ffoulkes-Ccarrington
Works for a Securities house in the City. Runs a Porsche. Has three CD players. Holidays in Thailand and Macchu Picchu.

C Tamara Ward-Patterson
Works as a Production Assistant for a TV company. Organises political

rallies in her spare time and runs an underground magazine.

D Eric Lombard
Owns four publishing companies. Runs a BMW, registration number EL 1. Spends six months of the year on vacation playing golf.

E Fred Arkwright
A bottle packer from Goole. Married. Four children. Has a 1978 Escort with no tax. Holidays in Bridlington.

1 Yuppie (young upwardly-mobile person)

2 Woopie (well off older person)

3 Dinkie (double income, no kids)

4 Yummie (young upwardly-mobile Marxist)

5 Minkie (measly income numerous kids)

LET COMPUTER TALK

Want to hook up your PC and PCW together?

Uniform-PC Configuration Program

Disk Controller		Type of Controller	Options
First	Standard PC (drive addresses 0-3)		↑ Up
Second	(not installed)		↓ Down
Third	(not installed)		← Left
Fourth	(not installed)		→ Right
Disk Drives	Drive Address	Size	Drive Characteristics
40 TPI	None	6 ms.	Double Sided
54 TPI	None		
8 Inch	None		
3.5 Inch	None		
Uniform Status Line		On	Ask Before Installing
Initialization Verify		On	Single Drive Copying
			No

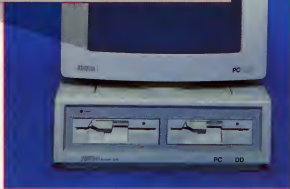
Specify the physical drive address of the 360K (40 TPI) floppy disk drive

Prices plummet

Just as this article went to press Timatic announced a dramatic cut in their software. Due to the popularity of the software and the changing US dollar exchange rate the company are now both offering Uniform PC and Unidos at £50.55 and the Unidos Z80 kit at £122.70. This represents a drop of £20 on the two programs and more than £25 on the Z80 kit.

Loco motionless

Unidos won't work with LocoScript, of course, because it doesn't run under CP/M.



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Unidos Z80 (including Uniform PC) £122.70 /

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External 5 1/2 inch drive and software £209

Timatic Systems (0329 239953) • All PCWs

PC



PCW

No article on transferring information between PCW and PC would be complete without tackling the question of transferring data between computers along a cable. So here goes with one method that should work easily with files of up to 64k.

Naturally if you have to transfer information between the two a lot, an external drive would be more successful. But if not you can get away with investing in the cost of a length of 8 core cable, two female plugs, a PCW RS232 interface and a serial interface card on the PC (check in case the PC has this as standard). The RS232 is the box you stick on the expansion port on the back of your PCW

to hook up to a printer or a modem. Well worth an investment of about £50.

If you're not technically-minded, you could buy a 'null modem lead' - a lead that has the wires crossed so that the input at one end is the output at the other. Don't try to use a printer lead as this certainly wouldn't work. Also make sure that you buy a lead with female plugs at either end. The serial lead ends in a sort of D-shaped arrangement with 25 connectors. The 'female' plug has 25 holes while the 'male' has 25 pins.

Then it is simply a matter of hooking up the two machines: fitting one end to the upper connector on the RS232 and sticking the other

end in the connector on the right hand side of the base of the PC.

Getting it together

The first thing you have to do is set the PCW and the PC to the same setting for transfer. On the PCW you need the utility SETSIO.COM (you find it on your CP/M utility discs) in the A drive. Type in SETSIO 1200 H OFF, or as we say in English - 'Set the RS232 to transfer data at a rate of 120 characters per second (the famous baud rate) and turn Handshaking off (a method of checking between computers what is going on in the other one)'. The PC has to have

ALK UNTO COMPUTER

Alec Rae shows you how to make them rap

will certainly more successfully than you could run a MS-DOS program on a PCW.

Pick a format

One piece of software that you will need is Uniform PC, a program that allows you to configure a PC drive in any of 260 different formats. This obviously gives you a lot of flexibility and the most obvious problem is ploughing your way through the pages of choices looking for what you want. As well as allowing PCWs to talk to PCs, it would mean that you could perhaps read files off discs for machines with famous old names like Kaypro, Televideo, Zenith or Osborne.

Uniform, in effect, sets the right format for any of your drives (for instance if you have other formats of 5 1/4 inch discs) although its most obvious use is to format your external drive. You can get either the equivalent of an 8000 series A drive (173k capacity) or a B drive (the 9512 A drive - 706k). As is the case with the PCW, with the 706k drive you can read both single and double-sided discs but it can't write to double-sided discs.

On the other hand, it is not quite as easy as in the PCW because you have to reset the format using Uniform every time you change between the two types of disc. However the greater flexibility probably makes the 706k drive worth the extra £50. This normally costs nearly £70, but if you are buying an external drive you get it for only £50.

The CP/M PC

The last piece in the jig-saw is Unidos, a program that impersonates, or 'emulates' the CP/M operating system on the PC. Although this sounds a good idea it needs a careful look before you invest nearly £170 in it. You have to fit a Z80 card in the PC - not really a taxing task. But you do face one or two problems when you're setting up your PC.

Unidos gives you a wide choice of keyboards to choose from (21 to be exact) but the documentation is not over helpful when it comes to choosing the right one for you. For instance the one suitable for programs written for the PCW is option number 7 - Heath/Zenith - a fact not at all obvious

from the documentation. This is because the software was written in America where they have hardly heard of Amstrads, and Timatic are now trying to get menus changed to reflect the different priorities.

Unidos is an ideal tool for people with software for old CP/M machines. The CP/M used is the 2.2 suitable for many programs but may not be able to handle many of the modern programs being written for the PCW nowadays. It would be well worthwhile checking in advance whether the CP/M software you have in mind will run on Unidos.

One major problem is the screen size. For instance the PCW screen size is 32x90 while the PC screen is only 24x80. Unless the CP/M program can be configured to handle the smaller screen size the display can be hopelessly messed up. Of course Amstrad CPC 6128 has the same screen size as the PC. Many CP/M programs are set up both for the 6128 and the PCW so you can be pretty sure these will not have screen display problems.

However most people interested in Unidos will probably have experience from the early days of personal computers and therefore will be well-equipped to tackle such problems. Unless you have a lot of old software, there are few CP/M programs that cannot be found in a more suitable form for the PC. These will certainly react more quickly and with fewer problems than the relatively sluggish CP/M emulations.

8 inch remix

Although this article is mainly aimed at transfer between PCWs and PCs, there obviously are computers using other sized discs. For instance 3 1/2 inch discs are becoming very popular (most notably with the Apple Macintosh, the ST and the Amiga) and to cater for these owners, Timatic also offer a 3 1/2 inch external disc drive. There is even an eight-inch drive for anyone who still uses eight-inch discs.

PPC plod

Unfortunately there's no easy way of hooking up your PPC and your PCW, short of buying an external 3 1/2 inch drive and using Uniform. If you just want portable word processing look at a Cambridge Computers Z88, which can talk to your PCW as described in last October's 8000 Plus (issue 13).

PLUSES

- A quick and sensible method of transferring information between computers
- Uniform provides a vast range of formats that should cater for all needs

MINUSES

- Unidos cannot handle many more recent programs and faces problems with screen sizes.
- Unless you had a large library of old CP/M programs it would be cheaper and more sensible to buy a suitable PC program than try to use a CP/M package on the PC.

RANGE OF FEATURES
PERFORMANCE

■■■■

EASE OF USE
DOCUMENTATION

■■

8000 PLUS VALUE VERDICT

■■■

the same setting so load MSDOS and then type `MODE COM1:1200,,8`.

Although it is possible to set the baud rate higher, 1200 is high enough a rate to ensure no mistakes.

You also need to have the utility PIP.COM on the M drive of the PCW. Again with the correct CP/M utility disc in the drive, type `PIP M:=A:PIP.COM` and thereafter you can use PIP at any time by just typing `M:PIP`.

From the PC

Say you want to transfer from the PC to the PCW; you obviously need the disc with the file to be transferred in the PC drive, and a formatted disc with enough space on it in the

PCW. Let's assume the filename is BORING.TXT although it can be anything you want.

ON THE PCW

Type `M:PIP BORING.TXT=AUX:[E] [RETURN]` or "Take any information that comes through the RS232 and save it in a file called BORING.TXT. And by the way type the whole thing up on the screen so I can see what's happening".

ON THE PC

Type `COPY BORING.TXT AUX/A [RETURN]` or "Take the file BORING.TXT and bung it through the serial port."

Once the file has been transferred the PCW will save it on disc.

From the PCW

Again put the disc with the file in A drive and the blank disc in the PC.

ON THE PC

Type `COPY AUX BORING.TXT [RETURN]` or "Be ready for some interesting news through your serial port. Be sure to save all information to file."

ON THE PCW

Type `M:PIP AUX:=BORING.TXT,EOF:[E] [RETURN]` or "Send the file through the RS232 until the end of the file and then stop. And print it up on the screen again so I can see what's happening."

Where can you go wrong?

```

      X  X
X      X O X O
X O      X X O
X O X      X O X O
X O X O X O
X      O

```

MARKET

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```

      X
O      X O
O X      X O
O X O      X O X
O X O X      X O X
O      O X O X O
O      O O

```

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SMALL TALK

40 years is a long time in computing – Ben Taylor rounds off the story of computers with a look at the microcomputer revolution

As with many aspects of life, Hollywood and the film industry is a fair barometer of progress. If you look at any film made before the mid-70s, whenever a computer was mentioned the camera would cut to a room full of white coats, flashing multicoloured lights and clacking printers – The Ipcress File and its sequels being prime examples. By the turn of the decade things had changed. Films like War Games showed the image of a computer as a fresh-faced teenager hunched over a desk with a green screened machine, threatening global security by cracking NATO's inexplicably trivial computer security system. What happened?

Well, microprocessors happened. By the middle of the 1970s engineers had discovered how to put many thousands of transistors onto a single piece of Silicon, effectively manufacturing a computer on a chip. Because the material costs for these microprocessors were so low, private individuals could afford to buy them. Instead of a computer costing £100,000 minimum, for £10 you could buy the heart of the computer, and scratch around to find some memory chips, a keyboard and a modulator to send the output to a domestic TV. Of course, you needed considerable technical skill to make a useful computer given only the basic microprocessor chip, but the active band of home electronics enthusiasts gladly provided that.

Clive to the rescue

The story of the development of home computers, at least in the UK, begins with a familiar name – Clive Sinclair. In 1977 Uncle Clive was trading under the name of Science of Cambridge, since his previous company, Sinclair Radionics, had had a mishap with a cash flow situation. He was already famous for producing the world's first digital wristwatch (the 'Black Watch' – to save on battery wear the display was blank and you had to press a button to see the time), and his first true foray into the computer field was the Science of Cambridge MK14.

Those of you who know anything about machine code will know that everything is done in hexadecimal numbers – a typical program reads D3 FF 5A C3 and so on. The keyboard on the MK14 only had 16 keys, one for each hex

capable of showing 8 characters at a time. Unless you paid extra you couldn't even save programs you had written, they had to be retyped everytime you turned the machine on. And it sold in thousands.

The MK14 was a typical British computer. It was weird and wonderful and designed for the hacker to get his teeth into, but of no real use except as a hobby. Another British computer, the Nascom 1, continued this fine tradition with a

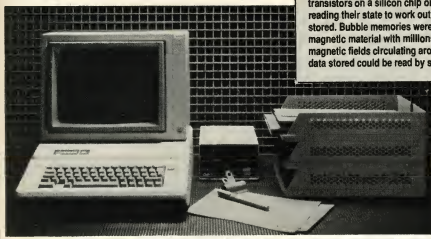
Hubble, bubble

Memory chips were hideously expensive in the 1970s, which is why most computers came with 4k or 8k of RAM at the most. There was a curious interlude in about 1979 when a new storage medium called 'Bubble memories' arrived to solve everyone's problems.

Ordinary memory chips work by turning transistors on a silicon chip on and off, and reading their state to work out what data is stored. Bubble memories were chunks of magnetic material with millions of tiny magnetic fields circulating around, and the data stored could be read by seeing which

way the polarisations on the magnetic fields was.

For a few hundred pounds you could buy a half-megabyte Bubble memory chip, which sounded like superb value when 32k of ordinary RAM cost about the same. However, in the end Bubble memories died because they were agonisingly slow: it took several milliseconds to retrieve each byte of data from store, and so they ran no faster than a modern floppy disc. For fast microprocessors, Bubble memories were useless.



▲ The Commodore PET and the Apple II. In the UK the PET dominated, but in America the colour screen and disc drives of the Apple appealed to businessmen more.

digit, so there was none of this fancy programming in BASIC rubbish. The MK14 was firmly a hobbyists' tool for people who wanted to learn to program a microprocessor; you couldn't do anything with it – you certainly couldn't do any word processing as there was no typewriter keyboard. For a basic £46.55 (including 8% VAT – remember 8% VAT?) the MK14 had 256 bytes of RAM and a calculator-type display

package costing £165 and offering the unheard of luxuries of a QWERTY typewriter keyboard, a TV video output and a cassette interface for saving programs on. The basic memory supplied was a massive 2k, but it was still a machine code tool, and did not at first have any BASIC language for programming.

A block off the old chip

The Nascom 1, launched in 1978, was built around a microprocessor called the Z80. This is the very same chip which Amstrad still use ten years later for their CPC and PCW computers. No-one calls Alan Sugar technically daring and gets away with it.

Transatlantic invasion

Many people have praised Alan Sugar for pioneering the one-plug computer concept, meaning that Amstrad machines tend to have monitor, processor and cassette/disc powered from the same lead, so making the package clean and appealing to the ordinary businessman.

In fact, the most significant computer of the 70s had

HISTORY

Moot point

Normally a collection of several integrated circuits is known as an 'array'. However, when talking about a network of interconnected transputers, the stonewise engineer calls it a 'farm'.

The mighty fallen

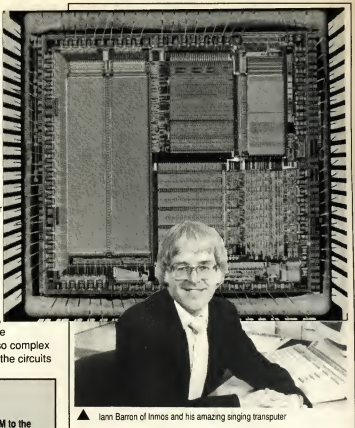
When you look back over the British home computer revolution, one name drops up over and over again – Oliver Sinclair. His MK14, ZX80, ZX81, Spectrum and QL all broke new ground in design and price, and the Spectrum is still the best-selling games computer today. In 1986, after the failure of his business computer, the QL, and the infamous CS electric car, Amstrad bought Sinclair's entire product range and trade name for a mere £5 million.

exactly this design philosophy. This was the Commodore PET ('Personal Electronic Transactor' – you can tell it's American), which had a cassette recorder, typewriter keyboard and 40 column by 25 row proper green video monitor, all housed in a sturdy metal case for real office use. Prices began at about £500 with 8k or RAM.

In the business sector, the PET, and its other American rival, the Apple II, dominated the late Seventies scene. The need for fast mass storage soon meant that all computers had floppy discs, and for a brief while from 1979 to 1981 the floppy disk-based CP/M reigned supreme as the industry standard computer system, on such memorable machines as the Kaypro. However, in 1981 IBM decided to enter the personal computer market with its PC, and that was really that as far as business computing went. They instantly captured the major part of the business sector, and almost all commercial packages today run under the rapidly ageing 1981 IBM standard.

The face of the future?

After all the long histories of American inventions, it's nice to finish on a British note – the story of the transputer. By 1981 microprocessor design was so complex that it was becoming increasingly difficult to fit all the circuits



▲ Ian Barron of Inmos and his amazing singing transputer

The CP/M story

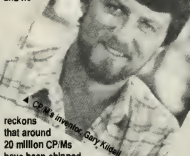
Even the most ardent LocoScript fans can't have failed to notice that the PCW runs an operating system for its business software called CP/M. This is by no means an Amstrad invention, and the roots of CP/M stretch back to 1972.

In 1972 three things happened. First, the American disk manufacturers discovered how to make portable floppy disk drives, whereas before mass disk storage had to be done on large expensive hard disks. Second, an American student called Gary Kildall acquired a manual for the Intel 4004 microprocessor, one of the earliest ever models. And thirdly, Richard M. Nixon resigned as U.S. President.

In 1973, Kildall managed to get a floppy disk drive to work with his homebrew microcomputer, and began trying to work out how to store and retrieve data files. By this time he was working with Intel's 8080 microprocessor, and Kildall chose the rather boring name for his system of 'Control Program for Microcomputers', or CP/M for short.

His first attempts to market CP/M to the nascent American computer industry weren't that successful. Its first commercial use was in 1975 as the guts behind a machine to calculate astrological charts from any person's birthdate. However, Kildall soon took the plunge, gave up his full-time job and founded 'Intergalactic Digital Research Inc.' to market CP/M. (The 'Intergalactic' was rapidly dropped as not having quite the right image). To help sell CP/M Kildall gave away a few utilities such as a title copier called the Peripheral Interchange Program – or PIP as we all now know and love it.

As floppy disks dropped in price and gained popularity, CP/M became the standard operating system to control them. Kildall made a fortune licensing CP/M, and he



reckons that around 20 million CP/Ms have been shipped. However, when IBM launched its PC with a rival company's operating system, Digital Research's CP/M went into decline. Today the world revolves around IBM and MS-DOS.

onto a single silicon chip. A radical rethink of microprocessor architecture came about, known as 'RISC' architecture (for 'Reduced Instruction Set Computing'), which drastically cut the number of components needed on a microprocessor.

Ian Barron (the double-n on Ian isn't a misprint) at Bristol-based Inmos began to ponder what to do with the extra space on the silicon chip that had now been freed by the reduced circuitry, and he decided to put some communications circuits there to enable two or more such chips to talk to one another. This turned out to be a stroke of genius, for now you could take several of these 'transputer' chips and interconnect them so that they all worked in parallel. In theory, 10 transputer chips together would work 10 times as fast as a single one, and 100 chips 100 times as fast.

Fortunately, Inmos thought to patent their transputer, although they've made no secret of their design details. The first transputer chip, the T414, was sold in mid-1986, and already virtually every major computer manufacturer in the world is developing new computers based around it or its successor, the T800. The first transputer-based computer on sale looks likely to be Atari's 'Abaq' (reportedly a trendy play on the word 'Abacus') with up to 13 linked transputer processors. Costing between £3,000 and £5,000, if it lives up to its specification the Abaq will run at 13.5 million instructions per second, faster than the current top-of-the-range IBM mainframe computer. Although Atari are an American company, the design for the Abaq is being done in England by Perihelion Hardware of Cambridge.

Looking forward, the future of computing seems to lie increasingly with ultra-powerful personal computers. Until recently, companies would buy a multi-million pound central computer for all staff to share, but now it makes more sense to give everybody a personal computer and link them all in a network to share files and general data. Computer manufacturers dedicated to selling massive mainframes could be in for a lean time of the 1990s.



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NAIL DOWN THOSE FILES

More power to your programming elbow: create and edit files in BASIC

If you've been following the BASIC series you can now write very sophisticated programs – with one problem. As yet we haven't mentioned files, so you can't save the results of a program to a file for future use, or work on data already stored in a file somewhere, etc. And 99.9% of useful programs require the ability to handle information stored in files (count words in a text file, add or edit items in a name-and-address file, and so on).

A file is created in BASIC by an OPEN statement. You can create a file ERASE.ME by the statement OPEN "O",1,"ERASE.ME". That "O" is a signal to BASIC that

some of the subsequent output from this program will be going into a file called ERASE.ME.

The "1" is there as a sort of temporary reference number for ERASE.ME – if you're working with more than one file, whenever you talk about file '1' then BASIC knows you mean ERASE.ME and not DELETE.ME or DESTROY.ME or any of the other files floating around.

To put something in this file, you use PRINT, but in a special way, using a hash (#) sign. The following listing should clarify things.

```
10 OPEN "O",1,"ERASE.ME"
20 PRINT "This will
```

appear on screen"

```
30 PRINT #1,"This will go into the file"
40 CLOSE
```

If you run this listing, line 10 creates the file, line 20 prints to the screen but not the file, and line 30 to the file but not the screen – note that reference number 1 preceded by the hash mark. That last statement is essential – you must CLOSE a file before a program finishes. It puts a 'the end' marker in the file so that when you subsequently read data from it, BASIC knows when to stop.

Do a directory by typing DIR, and you'll see that an extra file called ERASE.ME has been created. Typing TYPE ERASE.ME shows the contents of the file on the screen, ie. the message "This will go into the file". You can erase the file by typing ERA ERASE.ME – conveniently, DIR TYPE and ERA work within BASIC and you don't have to go back to CPM and that A> prompt.

Phoney list

So, you want to create and keep a telephone number list. It must of course be saved to disc, and it must be easily updatable. Plus you'll want to be able to print it out.

You need three programs: the first to create the file, the second to print out the file, the third to display and amend it. The first is easy. All you'll do is create a file as above, type in all the telephone numbers you want, then close it. This is a sequential file (see the box) so all the information will be recorded in a continuous stream; to keep things organised we'll keep one entry to a line.

```
10 OPEN "O",1,"PHONE.BOK"
20 PRINT "Enter name and number (type $ to
finish):" : INPUT a$
30 IF a$<>"$" THEN PRINT #1,a$ : GOTO 20
40 CLOSE
```

On running this program, you're prompted for a name and

```
run "add
New entry ($ to finish):
? Davina de la Rue 568155
New entry ($ to finish):
? $
Ok
type phone.bok
Art J. Krantzstein III Jr 01-374 6356
Arthur Smith 566473
Davina de la Rue 568155
Ok
#
```

▲ The adding routine – yes, it really works

```
run
Enter name and number (type $ to finish):
? Art J. Krantzstein III Jr 01-374 6356
Enter name and number (type $ to finish):
? Arthur Smith 566473
Enter name and number (type $ to finish):
? $
Ok
#
```

▲ Creating your file

```
type phone.bok
Art J. Krantzstein III Jr 01-374 6356
Arthur Smith 566473
Ok
#
```

▲ Checking it's actually worked

File facts

There are two types of file, sequential and random access files. To picture the difference, think of a cassette tape and a CD. If you want to find a particular track on an album on cassette, you have to go forward through the entire tape until you get to the right bit. On the CD, you can just jump to the fifth track, say, immediately.

Suppose you have a file of names and addresses, and you want to find one and alter the address; if stored as a sequential file, every item of text follows on immediately from its predecessor. Hence to do the alteration you have to read into a new file everything up to the address to be changed, then write in the new address, then read in everything after the address from the old file into this new file,

then save the new file and erase the old file. Text files in word processors work in this laborious way.

In random access files, it's much easier. Every name and address takes up the same amount of space, and you keep an index of what goes where. It's like an address book with one entry to a page and an alphabetical index at the back; to edit an address, just look up the name in the index, go straight to the required page, and change just that page. You can leave all the others untouched. The problem is that you have to set up all these indexes and handling random access files is generally much more complicated than sequential files.

number. Type it ending with [RETURN]; you will be asked for more entries until you type a dollar sign to finish. (Line 30 does this). Now if you type `PHONE.BOK` you should see the entries you typed in printed to screen.

The file `PHONE.BOK` will be on the 'default drive', i.e. the one you're currently using, though you can make sure it's put on somewhere else by putting the name of the drive at the front of the name - `OPEN "O",1,"B:PHONE.BOK"` and so on. Check it's there with a `DIR B:`.

If you want to print out all your entries onto paper, you just need to read the entries from `PHONE.BOK` and print them out with `LPRINT`. Now, the instruction you give to BASIC to open a file you want to read from is slightly different from the instruction telling it you want to open a file for writing to. To write something in a file you must have opened it with "O" for output (`OPEN "O",1,"PHONE.BOK"`); to read something from a file you must have opened it with "I" (`OPEN "I",1,"PHONE.BOK"`).

`EOF` is a very important function. It stands for 'end of file' and is followed by the reference number of a file. `EOF(1)` for example will be true if the end of file 1 has been reached and false if it hasn't. In conjunction with the `WHILE` statement it is often used in handling sequential files like this.

While U wait

To picture the action of the `WHILE...WEND` statement, think of the instructions at a level crossing:

```
10 WHILE (the lights flash)
20 wait
30 WEND
40 (proceed)
```

On getting to a level crossing, you look to see if the lights are flashing (10). If they are, you wait (20) for a bit. After waiting you then look again to see if they're still flashing - i.e. the `WEND` sends you back up to line 10. If they're still flashing, you wait again, and so on, until the lights are not flashing; then you don't wait, but proceed, i.e. continue from line 40.

The following listing will read the entries in your phone book and print it:

```
10 OPEN "I",1,"PHONE.BOK"
20 WHILE NOT EOF(1) : INPUT #1,name$ : LPRINT
   name$
30 WEND
40 CLOSE
```

So, what the above listing does is to keep inputting one name at a time from the file and printing it, repeating this cycle until the end of the file has been reached. When that happens it closes the file.

Great. But it would be nice to do something with this data. First a routine to add data to your file. You can't just stick it on the end - you need to first open the file `PHONE.BOK` for reading (`OPEN "I",2,"PHONE.BOK"`) then for writing new entries to (`OPEN "O",1,"PHONE.BOK"`). read in all the old entries, write them to the new file, close the old file, add the new entries, then close the new file. As hinted at the start, those reference numbers must be different in the two statements, or else BASIC will get its reading and writing mixed up. Again that `WHILE` statement is used.

```
10 OPEN "I",2,"PHONE.BOK" : OPEN
   "O",1,"PHONE.BOK"
20 WHILE NOT EOF(2) : INPUT #2,entry$ : PRINT
   #1,entry$ : WEND
30 CLOSE 2
40 PRINT "New entry ($ to finish):" : INPUT new$
50 IF new$<>"$ " THEN PRINT #1,new$ : GOTO 40
60 CLOSE
```

That `CLOSE` at the end is again very necessary and closes

all the files being worked on. If you just want to close one of the files you can `CLOSE 1` or `CLOSE 2` as in line 30.

Plus ça change

To amend stuff already in a file, you input items one by one from the old and check each one to see if it needs updating. If it's OK you write it to the new file, otherwise write the new version of that entry. This listing asks you for an entry to be amended and if the string you give it occurs in any entry in the old file, it asks you for the new version to be recorded. Line 40 makes sure that 'entry\$' is amended if necessary and line 50 prints 'entry\$' to the new phone book file.

```
10 OPEN "I",2,"PHONE.BOK" : OPEN
   "O",1,"PHONE.BOK"
20 PRINT "Give entry to be changed:" : INPUT
   changeme$
30 WHILE NOT EOF(2) : INPUT #2, entry$
40 IF INSTR(entry$,changeme$)>0 THEN PRINT "Old
   entry:",entry$ : PRINT "New entry:" : INPUT
   entry$
50 PRINT #1,entry$
60 WEND
70 CLOSE
```

Note that because of the way `INSTR` works if you give Fred as the entry to be changed, both Fred 667758 and Nina and Frederick 01-997 6637 will be amended, but Fred 667758 and ALFRED THE GREAT 718093 will not.

EXIT

```
run
Give entry to be changed:
? Arthur          Arthur Smith 566473
New entry:
? Angela Smith 666473
Ok
Type phone.bok
Art J. Krantzstein III Jr 01-974 6365
Angela Smith 566473
Nina de la Ave 568155
Ok
#
```

▲ Changing one entry - this works too

```
run "count"
Give name of file to be counted:
? phone.bok
Ok
# words counted in file phone.bok
#
```

▲ The word counter

String 'em up

`INSTR` is one of those string functions mentioned a while ago; you give it two strings and it tells you at which position... the second occurs in the first. For example, if `str$="word"`, `INSTR(str$, "b")` is 4, `INSTR(str$, "word")` is 1 and `INSTR(str$, "x")` is 0

Count yourself in

In all these examples, the name of the file to be worked on is contained in the program. But what if you might want to work with different files - for example, you want a program to do a word count on file X? You can just OPEN a file whose name is contained in a variable, for example:

```
10 PRINT "Give name of file to be
   counted:" : INPUT file$
20 OPEN "I",1,file$
etc. will ask you for the name of a file and
whatever you type in, the program will look for
that file and open it for reading from.
```

Now something for all you frustrated LocoScripting writers. Elderly readers may remember when we first published a word count listing back in Issue 1. Now you can write your own. This one uses the command `LINE INPUT` which, surprise surprise, inputs a whole line at a time, i.e. it reads everything up to the next [RETURN]. The command `INPUT` only goes as far as, for example, a comma or a [RETURN]. The variable `inword$` is used as a flag - if, as it works its way inside a word, `inword$` is -1, 'true'; when it sees a space but `inword$` is still true, the program knows it

must just have come out of a word, and increases the word count in `word$` by 1. Then it sets `inword$` to 0, or false.

```
10 PRINT "Give name of file to be
   counted:" : INPUT name$
20 OPEN "I",1,name$
30 inword=0 : line=1:line+1
40 WHILE NOT EOF(1) : LINE INPUT
   #1,line$
50 FOR i=1 TO LEN(line$)
60 c$=MID$(line$,i,1)
70 IF c$=" " AND inword=-1 THEN
   word=word+1 : inword=0
80 IF c$<>" " THEN inword=-1
90 NEXT i
100 IF inword=-1 THEN word=word+1
110 WEND
120 PRINT word; "words counted in file
   "; name$
130 CLOSE
```

The word counter here will only count simple text files, i.e. ASCII files. LocoScript documents must be converted to ASCII - see the manual - and put into group 0 before you count them. To count the words in a Loco document directly you need a bit of clever decoding - see 8000 Plus issue 14 p61.

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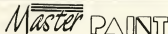
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In the first game (all three come on the one disc), Lords of Time, world history itself is under threat from a bunch of Dr Who clones, or Time Lords as they prefer to be called. It is their intention to distort time and eternity to make it totally unrecognisable. Of course, this is a monstrous plan. After all, where would we be without 1066, Paschendae or Vietnam? I mean, history would be unthinkable!

To ensure, therefore, that our cherished history books remain suitably xenophobic, racist and sexist pieces of propaganda, you must travel through time's nine zones. Your task is to obtain nine objects – each marked with a sign of the holy hourglass – and hurl them into the cauldron at the end of time. Just to make life interesting (and increase your score) there are various treasures to collect along the way.

Travel is by clock of course which, though a little cramped, provides maximum privacy. There are some nice touches in this game – for example, the occasional *déjà vu* effect or the narcissus flower that longs to see his true reflection.

Once in a Red Moon

Red Moon, the second adventure is not, as you might think, about the Militant Tendency in exile. Instead it's a kind of allegory on the recent demise of the Labour Party. The Red Moon Crystal, the source of power, has been lost. As a kind of Neil Kinnock surrogate, it's your task to locate the crystal and restore the world to its former magik. Various spells are at your disposal which, unlike most of the opposition leader's speeches, are brief and to the point.

The locations in this adventure are in the classic mould with a castle, temple and tower to name but a few. Interaction tends to be physical rather than verbal in nature. For example, the rather large blacksmith – the Giant Haystacks of adventures – attacks without reason and will certainly test your courage. This all adds to the game's very strong atmosphere provided by the detailed and well-written text.

Magik inflation

The third game, *The Price of Magik*, takes the story one step further. This time, the guardian of the crystal goes bananas and actually steals it, hoping that it will give him eternal life. Your task is naturally to get the crystal back. Much of the action here takes place in a mansion, though before you can progress, there are a few essential clues to discover in the garden. A novel feature in this game is the HYP (hypnosis) spell which gives you power over other characters –

something I'm told Mrs Thatcher employs frequently – though this is limited to one creature at a time.

Again, interaction in the game tends to be more entertaining than subtle, and perhaps a little too realistic for my liking (such as the tussle with the giant slug which reminded me of a recent encounter I had with a tax inspector.) The light source is provided by rubbing one's eyes with a certain flower. This is interesting because too many adventures (including the first two of this trilogy) rely on the old clichés of lamp or candle

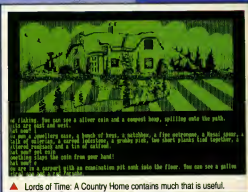
Additionally, some adventures fall into the trap of providing too many difficult puzzles at the outset, something which can put off the average adventurer straightaway. Commendably, none of these games make that mistake and where puzzles are difficult, hints are sometimes provided in the text itself.

Let me try again

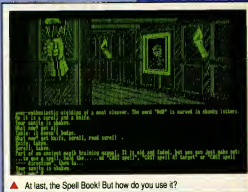
These games can be played in any order and come with the usual range of commands, including BRIEF/VERBOSE, RAM save (which means that you don't have to swap disks in the middle of the game) and UNDO which makes good any terminal mistakes.

The digitised pictures accompanying each game are excellent. Not only do they enhance the atmosphere created by the text but (unlike some other adventures) they also load very quickly. This speed is important as the graphics in some adventures are irritatingly slow to load.

Overall, Time and Magik is an excellent package. If you don't regard three classic adventures for the price of one value for money then you're a whingeing Nacod!



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▲ At last, the Spell Book! But how do you use it?

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RUNES OF POWER

More and more writers seem to be bashing out fantasy trilogies these days. More and more writers are switching from typewriters to computer word processors. Could the facts be related? All right, I know, it isn't logical to insist on a connection... there are equally good statistical arguments which "prove" that television causes insanity and medical care causes cancer. (TV set purchases and the number of mental cases both rise together with the ever-swelling population; a good health service keeps more people alive to suffer the afflictions of old age; never buy a used graph from a statistician.)

Nevertheless, you can fudge up some interesting parallels between the computer boom and the horrible proliferation of multi-volume fantasy epics. I'm pretty sick of the latter: there are altogether too many derivative efforts called things like *Dictator of the Circlets* (successor to *Emperor of the Annuli*, *Chieftain of the Toroids* and *Czar of the Hoops*), divided into three dreadfully reminiscent volumes, all of which I then have to review.

One of the most familiar fantasy plotlines goes like this. Pat Nurd is a no-account but ever so sympathetic young filing clerk from our world, or stablehand's apprentice in the book's imaginary world, who steps through a magic doorway and is Pitchforked into Adventure. Helpless at first in the menacing fantasy wilderness, Pat soon learns a few tricks and spells which control the magical fabric of the universe... and with the help of grimaces and perhaps a wise old mentor, struggles to learn more. By the middle of book three, this formerly inadequate stable clerk is a Mage who knows the True Names of things and can toss off Words of Power to command the forces of nature. It certainly beats working for a living.

(Greg Bear's novels *The Infinity Concerto* and *The Serpent Mage* offer one of the more intelligent recent versions of this rags-to-funes story.)

The real world version

Let's run through that familiar scenario again. Pat Nurd is a no-account but ever so aspiring young

writer, who steps through the enchanted door of the computer shop and is pitchforked into a strange new world. Helpless at first in the menacing silicon wilderness, Pat soon learns a few tricks and commands which control the awesome fabric of the operating system... and with the help of computer magazines and perhaps a local user group, struggles to learn more. By the time Pat should have finished book three of the current contract, this formerly inadequate hack is a Power User who knows three computer languages and can write programs to do all sorts of fun things.

Of course, Pat might not be doing so much actual writing.... If you accept the common picture of a writer as a mildly ineffectual person whose fantasies are acted out on paper, there's definitely a trap waiting here for the unwary. Behind the computer screen lies a strange and different space, a land which just like the average fantasy universe obeys new but suspiciously simple rules: rules that you can learn. All the sentences of its language are in the imperative - "Do this, do that, for I command that it should be so" - and if they're phrased correctly they will always be obeyed. Gosh, what an ego trip. (Of course you have to watch it when invoking powers like the Demon Assembler - one misspelling, and this fiend can bust free of the pentacle to wreak havoc on your naked, vulnerable disk directory.)

Really?

We'd better not push this analogy too far. The general point is that, just like the standard untrained-wizard-makes-good plot, tinkering with computers can pamper one's



WASTED
A page
in the company
of author and
PCW pundit
David Langford

LANGFORD

little power fantasies. Issuing commands is fun. Getting a program to work is so much more definite and definable an achievement than bashing out another thousand words of prose which might well have to be rewritten anyway.

All power corrupts, they say, and the absolute power we wield only in fantasies and programming... corrupts absolutely, like Tolkien's Ring. You can fiddle round obsessively with a prime-

number program or a deeply useless means of detecting split infinitives: you can feel you're doing things, achieving things, when the end result is a re-inventing of products rather less useful than a square wheel. Needless to say, this kind of skewed obsession with what's supposed to be a writing tool is not necessarily all that good for the writer.

Readers, this is no empty theorizing. Take pity on the neurotic, obsessed wreck which used to be a novelist called David Langford. The bytes have got to my brain cells. I've become a software company but it's a year or more since I actually wrote a book. Even if I can switch the creativity interface module back to writing mode, there is the ghastly fear that I'll end up producing a heroic fantasy trilogy, *Quest of the Silicon Mage*, in which the scorned hero discovers his ability to program the universe in Pascal, and...

Semantics corner

When is a piece of add-on software for LocoScript not a piece of LocoScript add-on software? The difference is that the first description is ideologically OK for anyone to use, while the second, according to Locomotive Software's sager and sharp-toothed lawyers, constitutes an attempt to defraud the public by implying that one's add-on program is

written or approved by Locomotive themselves. It might sound daft, but be warned: lawyers have this magic power to see evil where others can't. I myself have utterly foresworn and abjured the marketing of LocoScript add-on software, and am nervously confining myself to the completely different field of add-on software for LocoScript.

FREE - FOR A FEE

Adrian Wilkins looks at free software you actually pay for

We are all a little tired of marketing adages such as "Don't miss our FREE offer", "Pay No Money Now (we'll make sure you'll pay lots later)", etc. Where's the catch, I hear you say. Now here's an interesting slant: a paperback book which you actually pay for! Seventeen dollars and ninety-five cents in fact, assuming you carry such currency in your back pocket.

In the year 14 BA (before Amstrad), or half of eternity ago, there were – surprisingly – a few other microcomputer manufacturers in existence. One of these was Kaypro. In the States, Kaypro did what Alan Sugar is doing today in Britain and Europe. Historians will tell you that a high proportion of PD software came into being because of Kaypro and the following they achieved. As did the Free Software Handbook.

Written by Gregory Platt, Patricia Hatcher and Blake van Meter – three American veterans of the 8-bit computers – and published by Peopletalk, the Free Software Handbook is a compendium of public domain software for CP/M computers, some of it already covered in these pages, others not. A bargain indeed, running to over 300 pages. Useful background information, a whole host of games to pick your wits against (Adventure, Chess, Golf, Racing, Star Trek, Lunar Module, etc), utilities galore, printing programs to put Robert Maxwell to shame, a special section for thoroughbred (and would be) hackers, and more.

Oh, and I nearly forgot to mention, you receive 3 double sided disks with every purchase. No, not blank ones – they contain all the software described in the book. Free!

Dropping catches

Is there a catch? Well, a few, actually. Firstly you will have to beg, borrow, or steal MBASIC or OBASIC if you intend to use the games programs – Locomotive's MALLARD BASIC is rather more modern than these, although if through 8000 Plus you have learned how to program in BASIC you stand a good chance of converting them yourself.

Be a little cautious using the disc repair and file undelete utilities with your PCW's B drive – B disk files are organised in 2k block quanta and not all early CP/M software performs correctly with these.

You will need to hack the communications program provided because of hardware differences between the Kaypro and PCW, and you might be better advised to buy one of the comms programs specifically tailored to your machine, such as were reviewed here a few months back.

Although the FSH offers brilliant value overall, there are a few disappointments with the Hackers chapter: a number of the supplied programs are effectively redundant on the PCW, since Amstrad supply CP/M Plus (synonymous with CP/M version 3). Thus on your Amstrad disk side 3 (the CP/M Programming Utilities) you will already find DUMPCOM, so you don't have any use for IDUMP; you can already divert console or printer output to a disk file using PUTCOM, so I/O-CAP is superfluous, and most of the features of EZCPR are built-in with CP/M Plus anyway, such as redefining devices, disk and directory search paths, password security, and HELP.

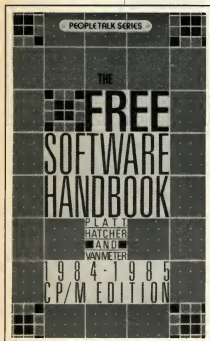
One offering that particularly caught my eye is UNSPOOL.COM – a program that once loaded sits invisibly in the TPA and prints a file while you continue to use the PCW for something else. However, even with this there is a drawback – UNSPOOL relies on the printer buffer to keep the printer active, only topping this up while you are at the A> prompt. So if you run a lengthy program the printer soon stops, continuing only when you next return to CP/M.

As with all things in life, you pay yer money and you takes yer pick.

The Free Software handbook is distributed in the UK by Davis /Rubin (0386 853610) for £39.95
ISBN 0-915907-07-0

EXIT

● PDSL's address is Winscombe House, Beacon Road, Crowborough, Sussex, TN6 1UL. Their telephone number is 08326 63238.



Creme de la creme

As this month sees the last of our present series on Public Domain software, here is a brief recap of the pick of the bunch.

Database	DBQ (issue 12, Sept 87) from PDSL	Disc repair	DU (issue 10, July 87) from PDSL
Comms	MEX (issue 19, April 88) from PDSL or Advantage	File Utilities	NULU, NSWP (issue 18, March 88) from PDSL
Artificial Intelligence	LISP (issue 15, Dec 87) from the CP/M user group	Games	The Free Software Handbook (this issue, see above)

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LISTINGS

Be amazed by the graphic details in this Arcade game from Mallard BASIC

ODIOSUM

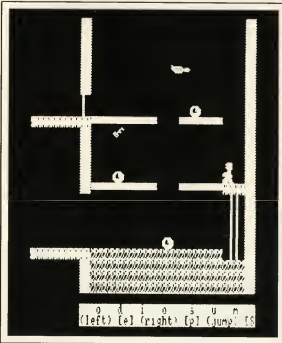
by Richard Hopkins

OK. It's long and it looks pretty complicated. But this little game has the best graphics you've seen since you put your Spectrum ZX in the cupboard. Well, at least it's the best you've seen in Mallard Basic.

The idea is not entirely new. There were, at the last count, two or three million of these maze type games involving a little character climbing up the screen, jumping over objects which inexplicably kill him if he touches them. But you don't get many in Mallard Basic.

The strength of the game is in the graphics which are surprisingly good. This is achieved by redefining a number of characters and then combining them to make up the man and the maze. Also note the method of blanking the screen until the screen is built up (line 470 and line 580).

If you typed in the handfont program in December edition you will be at least part of the way there. But instead of



Give us a break

There are times when we can't make life really simple for you and some lines actually get too long for our PCW printer. Just remember not to press [RETURN] if the line wraps over to the next line. Keep going till the end of the line of BASIC before [RETURN]ing. And don't expect the line breaks to come at the same place as they do on your screen.

This is also a time when the checksum program printed regularly in 8000 Plus really comes in useful. Having a check number at the end of each line to help you find mistakes comes in really useful - especially for those DATA lines. If you haven't typed it in this might be a good time

```

10 MEMORY &BHPPE: FOR hex=&HC070 TO &HC098: READ ph: POKE hex,ph: NEXT hex
20 DATA 243,62,129,211,241,62,130,211,242,175,95,103,22,184,36,153,192,111,41,41
30 DATA 41,25,17,154,192,235,1,8,0,237,176,62,133,211,241,62,134,211,242,251,201
40 FOR char=160 TO 191: POKE &HC099,char
50 FOR row=1 TO 8:READ binary(row):POKE &HC099+row, (binary(row)):NEXT row
60 cl=&HC070: CALL cl: NEXT char
70 DATA 0,63,63,60,63,63,15,15,0,192,240,192,240,192,0,0,192
80 DATA 63,255,255,15,63,255,252,255,240,240,60,204,240,60,252,63
90 DATA 63,255,255,63,63,63,63,63,240,240,240,240,192,0,0,192
100 DATA 0,3,15,3,15,3,0,3,0,252,252,60,252,252,240,240
110 DATA 15,15,60,51,15,60,63,252,252,255,255,240,252,255,63,255
120 DATA 15,15,15,15,3,0,0,3,252,255,255,252,252,252,252
130 DATA 255,85,170,85,255,0,0,85,170,85,170,85,170,85,170
140 DATA 0,0,0,51,204,51,12,0,12,51,192,48,0,0,0,0
150 DATA 15,60,240,240,240,255,63,15,240,252,255,255,63,255,252,240
160 DATA 20,28,20,28,20,28,20,28,186,202,202,189,123,119,205,74
170 DATA 0,0,0,0,63,207,63,0,3,12,51,15,60,243,63,15,48,192,0,63,207,63,255,252,0,0,48,192,240,192,0,0
180 DATA 0,0,12,3,15,3,0,0,12,3,0,252,243,252,255,63,192,48,204,240,60,207,252,240,0,0,0,0,252,243,252,0
190 DATA 0,0,0,15,60,243,63,15,0,0,0,255,207,63,255,252
200 DATA 0,0,0,255,243,252,255,63,0,0,0,240,60,207,252,240
210 RUN "odiosum"

```

redefining the character set Mr Hopkins has redefined a number of those vague symbols that you only discover when you press [ALT] instead of [SHIFT] by accident. (See the different ASCII character numbers in line 40). So remember if you use any of these characters you will have to reset your machine after playing Odiosum.

The program comes in two parts. The first section redefines the characters it requires and then calls up the main program. It is therefore sensible to call the second program 'Odiosum' or change the file name at the end of the first listing. Mr Hopkins chose the name - you'll discover why. After the first time you can save time by going straight to the second program.

You move left using [Q] and right using [E] and you jump using [P]. Just press [P] once or you bound about the place like a kangaroo. Go to the end of each level and an automatic lift thoughtfully raises you to the next set of dangers. You have to collect the key on the middle level and then get to the door on the top level (top left). Avoid the bird (the author described it as Alan Sugar's executive eating pteradactyl but we can't spell that so we'll just call it a bird) or that will kill you too.

If you find it too difficult (or even not difficult enough) you can change things by altering where the nasties change direction (lines 300,310 and 370) and the speed (contained in the 'edn' variables in line 40). You can even change what keys to use by small changes in lines 70, 90 and 110.

In fact with enough enthusiasm you could create a game with 50 different screens to help you while away the long winter evenings. But don't send them to us. We couldn't do this one.

```

0 REM Odiosum- Main Program
10 as=CHR$(27):rvs=as+"p":nvs=as+"q":cls=as+"r":ons=as+"e":ofs=as+"f"
20 mes=" O D I O S U M !!! Use keys (q) (left) (e) (right) (p) (Jump) (SPACE) to play "
30 DEF FMat(x,y)=CHR$(27)+rvs+CHR$(31)+x+CHR$(162)+CHR$(163):e2=37:ed1=1:ed2=49:ed3=1
40 x2=20:y2=24:as=CHR$(160)+CHR$(161):bs=CHR$(162)+CHR$(163):e2=37:ed1=1:ed2=49:ed3=1
50 ed2=41:ed2X=1:12=0
60 PRINT FMat(x2,y2):" "
70 IF 12=0 THEN as=CHR$(166)+CHR$(167):" "
80 IF y2/2=INT(y2/2) THEN bs=CHR$(170)+CHR$(171) ELSE bs=CHR$(168)+CHR$(169)
90 IF 12=0 THEN as=CHR$(166)+CHR$(167):" "
100 IF y2=2 THEN bs=CHR$(160)+CHR$(161):" "
110 IF 12=0 THEN as=CHR$(166)+CHR$(167):" "
120 PRINT FMat(x2,y2):" "
130 IF (y2-56 AND x2-20):FMat(x2+1,y2):bs=CGSUS 280
140 IF (y2-42 AND x2-20) OR (y2-56 AND x2=14 AND 12=1) THEN CGSUS 390
150 IF as=CHR$(160)+CHR$(161) THEN j2=1 ELSE j2=0
160 FOR n=1 TO 1 STEP 0.5:PRINT FMat(x2,y2):" "
170 x2=x2+(n2/2):IF y2/2=1 THEN j2=1 ELSE j2=0
180 IF j2=1 THEN bs=CHR$(168)+CHR$(169):" "
190 PRINT FMat(x2,y2):" "
200 IF j2=1 THEN bs=CHR$(162)+CHR$(163):IF y2/2=INT(y2/2) THEN bs=CHR$(170)+CHR$(171)
210 PRINT FMat(x2,y2):" "
220 IF 12=0 THEN as=CHR$(166)+CHR$(167):" "
230 CGSUS 280:ed1=0:ed2=0:ed3=0
240 PRINT FMat(x2,y2):" "
250 x2=x2+1:PRINT FMat(x2,y2):" "
260 PRINT FMat(x2,y2):" "
270 RETURN
280 CGSUS 440:PRINT FMat(15,e2):" "
290 IF e2=31 OR e2=46 THEN ed1=ed2:PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
300 IF e2=46 OR e2=53 THEN ed1=ed2:PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
310 PRINT FMat(5,e2):" "
320 IF ed2X=1 AND ed2/2=INT(ed2/2) THEN PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
330 IF ed2X=1 AND ed2/2=INT(ed2/2) THEN PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
340 IF ed2X=1 AND ed2/2=INT(ed2/2) THEN PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
350 IF ed2X=1 AND ed2/2=INT(ed2/2) THEN PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
360 IF ed2X=1 AND ed2/2=INT(ed2/2) THEN PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
370 IF ed2X=1 AND ed2/2=INT(ed2/2) THEN PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
380 IF ed2X=1 AND ed2/2=INT(ed2/2) THEN PRINT FMat(5,e2):CHR$(184):CHR$(185):CHR$(186):CHR$(187)
390 PRINT FMat(x2,y2):" "
400 x2=x2+1:PRINT FMat(x2,y2):" "
410 CGSUS 280:IF x2=14 OR x2=8 THEN RETURN ELSE GOTO 390
420 FOR n=0 TO 91:OUT 245,n:EXIT n
430 mes=" You died. Better luck next time! ++ "
440 IF (x2=14 AND ARS(e2X/2)) OR (x2=8 AND ARS(e2X/2)) THEN GOTO 420
450 IF (x2=5 AND y2=e2X-2 AND y2=e2X(4) OR (x2=20 AND y2=42 AND y2=46) THEN GOTO 420
460 RETURN
470 PRINT cls:OUT 248,8
480 EXIT
490 PRINT FMat(22,20):STRINGS(11,179):rvs:STRINGS(24,179):nvs:STRINGS(4,179)
500 PRINT FMat(23,20):STRINGS(11,179):rvs:STRINGS(24,179):nvs:STRINGS(4,179)
510 FOR n=17 TO 21:PRINT FMat(n,20):" "
520 PRINT FMat(16,31):STRINGS(24,172):FMat(10,31):STRINGS(24,172)
530 PRINT FMat(16,31):STRINGS(24,172):FMat(10,31):STRINGS(24,172)
540 PRINT FMat(16,31):STRINGS(24,172):FMat(10,31):STRINGS(24,172)
550 OUT 248,7:RETURN
560 FOR n2=0 TO 91:OUT 245,n2:EXIT
570 mes="++ Congratulations you have completed ODIOSUM "
580 CGSUS 470
590 PRINT FMat(28,20):rvs:LEFTS(mes,32):nvs:mes=RIGHTS(mes,LEN(mes)-1)+LEFTS(mes,1)
600 IF INKEYS">" THEN GOTO 630 ELSE GOTO 40
610 mes="++
620 CGSUS 470
630 PRINT FMat(28,20):rvs:LEFTS(mes,32):nvs:mes=RIGHTS(mes,LEN(mes)-1)+LEFTS(mes,1)
640 IF INKEYS">" THEN GOTO 630 ELSE GOTO 40

```

LOGO/STOP PRESS CONVERTER

by Dr MD Buckley-Sharp

Over the months we seem to have been neglecting poor old Logo but this month Dr Buckley-Sharp has given the high resolution graphics a boost with this program to convert Logo Pic files into a format suitable for loading into Stop Press.

Why should you want to do this?

Well as the good doctor points out Logo gives you shapes drawn from a formula rather than freehand as in Stop Press. So if your drawing needs to be correctly scaled or involves a mathematical function as would a graph, it is probably the easiest method to use.

To do this you have to save your Logo drawing as a '.PIC' file. This is done with the SAVEPIC command savepic "monalisa" which will give you a file called MONALISA.PIC on disc.

Now it so happens that a '.PIC' file has 92160 pixels, which by a strange quirk of fate is the same number as in a Stop Press '.SPC' file - although they are in a different order.

This program simply uses BASIC to convert them to the right order. Just type in the .PIC file name when prompted and you wait until all 32 lines are converted.

```

10 PRINT "Press [RETURN] for a list of .PIC files on this drive or"
20 ON ERROR GOTO 0
30 INPUT picfs:picfs=UPPER$(picfs)
45 IF LEN(picfs)=2 AND RIGHT$(picfs,1)="/" THEN 100
50 IF picfs="/" THEN GOTO 100
60 spcfs=picfs+".SPC":picfs=picfs+".PIC"
70 IF FIND$(picfs)<="" THEN GOTO 130
80 PRINT "Input file "picfs"; not found"
90 IF LEN(picfs)>2 AND MID$(picfs,2,1)="/" THEN picfs=LEFT$(picfs,2) ELSE picfs=""
100 IF picfs="" THEN PRINT picfs:" drive":PRINT:GOTO 20
110 ON ERROR GOTO 120:FILES picfs+".PIC"
120 IF ERR=53 THEN PRINT "No files":ERRSUM 10
130 ON ERROR GOTO 0
140 OPEN "R",1,picfs:OPEN "O",2,spcfs
150 DIM d$(8):PRINT "Wait...Converting 32 lines"
160 GET #1,2:available%=128
170 FOR line%=1 TO 32
180 FOR row%=1 TO 8:d$(row%)=""
190 need%=90-LEN(d$(row%))
200 IF available%=need% THEN GOTO 230
210 IF available%>0 THEN d$(row%)=d$(row%)+INPUT$(available%,1)
220 GET #1,available%=128:GOTO 190
230 d$(row%)=d$(row%)+INPUT$(need%,1):available%=available%-need%
240 NEXT row%
250 FOR column%=1 TO 90
260 FOR row%=1 TO 8:PRINT #2,MID$(d$(row%),column%,1):NEXT row%
270 NEXT column%
280 PRINT CHR$(line% MOD 10)+48):NEXT line%
290 PRINT:CLOSE:PRINT "Finished. Converted file is in "picfs
300 END

```

1B1C
15C0
074D
0B4F
0F6D
0914
0C41
0ADA
0BC2
184V
0F1E
15A2
110C
06B8
0AD4
1106
09BE
05B9
08BA
077C
0D6C
1699
0C33
15CB
047F
07C6
1700
070D
0B57
1989
02B8

If you've forgotten which files you have on disc just press [RETURN] and a directory of the .PIC files on the disc in the current drive is printed out. Put in the drive letter with a colon (for example B:) to get a directory of that drive.

When you get the picture into Stop Press you can reverse the screen (K2 on the Stop Press menu) if that suits you better.

Better and Better

Readers seemed pleased with our spell checking program last month but as with all programs, there's always an improvement. Roy Archer has sent in some minor alterations to the program that mean that as well as spell checking the program also does a word count.

All that needs to be done is adding the word :count=0 at the end of line 30, changing line 260 to read

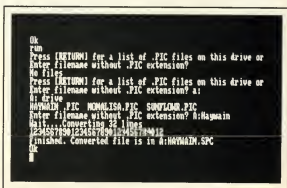
```
260 IF word$>" THEN
```

```

count=count+1:GOSUB 320:PRINT
#3,word$:word$=""
and amend line 680 to
680 CLOSE #1:CLOSE:PRINT:PRINT
"File "check$:" contains
";count;" words":END

```

As the counting is done in line 260, before the program discards the words of under two letters and those of more than 18 letters it should be pretty accurate.



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LOGO CAPTIONS

by Robert Samuels

```
to turtlepos
  make "xpos item 1 tf
  make "ypos item 2 tf
  convertpos
end

to caption
  setsplit 4
  ss
  pr [What is the caption?]
  make "caption rq
  make "captionlength (count :caption)
  ts fs
end

to fig :no
  ts
  setcursor [70 5]
  type se [fig.] :no
  fs
end

to write
  ts
  setcursor (se (:column - round (:captionlength / 2)) :line)
  pr :caption
  fs
end
```

In a sudden surge of interest in Logo we include one or two short utilities that make life easier for the Logo user who wants to mix graphics and text on screen.

First there is a caption writer. So once you have completed your Logo version of "When did you last see you father?" you simply move the cursor to place where you want your caption to go. Then type in `turtlepos` (which finds the current turtle position and sets the cursor to it) `caption` (which prompts you for the caption) and `write` (which writes

it centred on the turtle). It also ends up with `fs` or full screen giving the full screen over the graphics and therefore cutting out any gunge when you save the picture (and convert it into a Stop Press formula if you've tried the other converter listing).

The final effort is a simple but effective method of tagging your efforts. Again when you are finished type `FIG` and a number (say `fig 3` and 'Fig.3' appears in the top left hand corner - or wherever you want by setting the figures after `setcursor`).

You load Logo by typing `LOGO` when you have the suitable CP/M utilities disc in the drive and just enter them as you see them here pressing [RETURN] at the end of each line. By writing `SAVE "filename` you can save all the utilities to disc and these can be loaded the next time you use Logo by typing `Load "filename`.

How to type in a listing

Load up Mallard BASIC - to do that, insert your CP/M disc, reset the machine and at the A> prompt type `BASIC[RETURN]`. Now you see the 'Ok' prompt. Just type in the lines of the listing exactly as they are printed on the page (but not the numbers on the extreme right). Type `LIST` at any time to print out your typing so far to the screen; if you want a printout to pore over, type `LIST`.

Mistakes made before you press `RETURN` can be corrected with the `DEL` keys, otherwise you have to use the line editor. Suppose you've made a mistake in line 100; type `EDIT 100` and then you can use the cursor keys and `DEL` keys to correct it. Press `RETURN` when the line is OK. To delete a whole line, type its number only and press `RETURN`.

When you've finished, save the program to a disc by the command `SAVE "FRED` (or

any other suitable name of eight letters or less), from the program, type `END`.

Programs rarely run first time, but when BASIC encounters a mistake it tells you where it is. 'Syntax Error in

line 60' means a mistake in that line (though the actual typing error may have occurred in a previous line, causing problems in this one). Other error messages can often occur too. Use the `EDIT`

command to correct it.

You can run the program another day by loading `BASIC` up as before and, with the disc on which you saved the program in the drive, typing `LOAD "FRED` and then `END`.

Good programs needed !

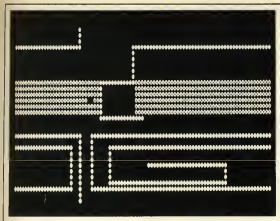
We're looking for well written programs of up to 50 or so lines which we can print in these listings pages each month. Of course, since we can fit more of the shorter listings in, and they're easier to type, the longer ones have to be really special!

If you can program you could earn hard cash and instant fame by having your program printed in 8000 Plus. Give instructions on an accompanying sheet for using the program, and if there are any useful modifications that readers can make by simple edits to customise the program, mention those too.

To submit a listing you must supply:

- 1) A printout of the listing;
- 2) A disc on which it is saved;
- 3) A stamped addressed padded bag for its return;
- 4) An explanation of what it does and how to use it;
- 5) A signed statement confirming that the program is your own work and hasn't been submitted to anyone else.

Send all this to *Listings, 8000 Plus, Bath BA1 1EJ* and allow up to 40 days for the return of your disc - we assess the listings in a batch once a month.



SQUONK

by Peter Gerrard

Sounds easy, doesn't it? Well the problem is that the diamonds do appear on the screen at a rapid rate of knots and you don't really have much time to ponder on the meaning of life while you are playing.

The computer actually cheats a bit because it waits until it reaches a line of diamonds and pauses for a fraction of a second deciding on which way to go (it chooses at random although at times it doesn't seem like it). You don't have the same opportunity so planning in advance is the order of the day.

The idea is to try to box off the computer's line while being sure of staying out of trouble yourself. The program helpfully points out at the end of each game how often you have failed to do it.

And the name? Well 'Squonk' is actually just a word that Mr Gerrard happens to like and who are we to question the thought processes of a creative genius.

The best games are always the simplest ones. This one is delightfully simple to explain but "****" hard to win. All that happens is that two streams of diamonds shapes (one filled diamonds, one empty) appears on the screen. You control the direction of the line of filled diamonds using the cursor keys. At the same time the PCW is controlling the line of empty diamonds.

What you have to do is not cross your own or the computer's line -- at least not until the computer is stupid enough to do it first. You can even go off the edge of the screen if you want. Going off the top brings you out at the bottom the screen and so on.

```

0 '
10 PRINT CHR$(27)+CHR$(46)::PRINT CHR$(27)+": ";
20 cls:CHR$(27)+"E"+CHR$(27)+"R":PRINT cls
30 PRINT:PRINT"Press SPACE to start game."
40 AS=INKEY$:IF AS=" " THEN PRINT cls:ELSE 40
50 =PERK(645041):RANDOMIZE (a)
60 DIM a$(90,32)
70 AS="dlr":XO=30:YO=10:MS=MID$(a$,INT(RND(1)*4+1),1):GOSUB 440:PRINT CHR$(167);
80 X=45:Y=16:DIRS=MID$(a$,INT(RND(1)*4+1),1):GOSUB 420
90 PRINT CHR$(168);
100 AS=INKEY$:IF AS="" THEN 200
110 IF AS=CHR$(1) THEN DIRS="l":GOTO 200
120 IF AS=CHR$(6) THEN DIRS="r":GOTO 200
130 IF AS=CHR$(31) THEN DIRS="u":GOTO 200
140 IF AS=CHR$(30) THEN DIRS="d":GOTO 200
150 GOTO 90
160 OK=PERK(645041):IF DIRS="u" THEN 360
170 IF DIRS="d" THEN 390
180 IF DIRS="l" THEN 400
190 IF DIRS="r" THEN 410
200 A=0
210 IF INT(RND(1)*100+1)>99 THEN 300
220 IF MS="l" AND XO<1 THEN IF AS(XO-1,YO)<1 THEN XO=XO-1:GOTO 360
230 IF MS="l" AND XO=1 THEN IF AS(86,YO)<1 THEN XO=86:GOTO 360
240 IF MS="r" AND XO=86 THEN IF AS(XO+1,YO)<1 THEN XO=XO+1:GOTO 360
250 IF MS="r" AND XO=86 THEN IF AS(1,YO)<1 THEN XO=1:GOTO 360
260 IF MS="u" AND YO>1 THEN IF AS(XO,YO-1)<1 THEN YO=YO-1:GOTO 360
270 IF MS="u" AND YO=1 THEN IF AS(XO,30)<1 THEN YO=30:GOTO 360
280 IF MS="d" AND YO<30 THEN IF AS(XO,YO+1)<1 THEN YO=YO+1:GOTO 360
290 IF MS="d" AND YO=30 THEN IF AS(XO,1)<1 THEN YO=1:GOTO 360
300 IF DIRS="l" THEN MS="r"
310 IF DIRS="r" THEN MS="l"
320 IF DIRS="u" THEN MS="d"
330 IF DIRS="d" THEN MS="u"
340 A=A+1:IF A<20 THEN 220 ELSE AS="dlr":MS=MID$(a$,INT(RND(1)*4+1),1)
350 IF A<20 THEN 220 ELSE PRINT cls:"I crashed! Disaster! human-human+1:GOTO 450
360 GOSUB 440:PRINT CHR$(167);
370 GOTO 160
380 IF Y>1 THEN Y=Y-1:GOSUB 420:GOTO 90:ELSE Y=30:GOSUB 420:GOTO 90
390 IF Y<30 THEN Y=Y+1:GOSUB 420:GOTO 90:ELSE Y=1:GOSUB 420:GOTO 90
400 IF X>1 THEN X=X-1:GOSUB 420:GOTO 90:ELSE X=86:GOSUB 420:GOTO 90
410 IF X=86 THEN X=X+1:GOSUB 420:GOTO 90:ELSE X=1:GOSUB 420:GOTO 90
420 IF AS(X,Y)<1 THEN AS(X,Y)=1:PRINT CHR$(27)+"E"+CHR$(32+Y)+CHR$(32+X)::RETURN
430 PRINT cls:"You crashed! Ho ho ho! computer=computer+1:GOTO 450
440 AS(XO,YO)=1:PRINT CHR$(27)+"E"+CHR$(32+YO)+CHR$(32+XO)::RETURN
450 PRINT:PRINT:PRINT"Score now stands at you+human+me:computer
460 ERASE a$:DIM a$(90,32)
470 PRINT:INPUT"Another game <Y or N>";YS
480 IF UPPER$(YS)="" THEN PRINT cls:GOTO 70:ELSE PRINT CHR$(27)+"E":END

```

0020
0098
00C6
12A8
0853
0A4D
0460
199F
1146
05A5
073B
0C08
0D47
0CE2
036C
099B
063B
063C
0661
01DD
0A20
1752
13P5
1685
1402
17CB
13F8
170C
1797
12F8
0755
0769
076A
0739
14D6
2027
0A89
03A7
1844
184D
1842
1846
186B
1940
1602
1858
06C6
0F70
1858

Do the twist

You can easily double the life of those expensive carbon ribbons. Only the top half gets used, so by reversing the film you can use the lower, unused half.

Take the work out of ribbon and release the catches which hold the top of the casing in place. Gently prise off the top using a pocket knife or flat screwdriver. Keep the casing as a whole upright during this procedure. On opening the case you'll see the ribbon bunched up in the middle. Before removing the ribbon, take note of how it is threaded through the cogs and out of the arms on the left and right. On the right you will see that the ribbon passes through two cogs after it has entered the case. The rear cog is spring loaded; push it backwards and lift the ribbon free. Now simply tip the ribbon out onto the table.

Take a length of ribbon and thread it through the arms and the cogs as noted before. The shiny side should face inside, ie, threading the ribbon through the right hand arm, the shiny side should face left and vice versa. The used up part of the ribbon should be lower than the unused part. You will now have a length of ribbon threaded inside the casing, through the cog wheels and out through the arms on the left and right. The mass of ribbon still lying on the table. Now replace the top of the casing.

Finally, wind the remaining ribbon into the casing by turning the knob on the left. Do this with one hand, use the other to feed the ribbon, to make sure it goes in straight.

Once all the ribbon has been wound in and the loop begins to advance as normal, replace the ribbon and there's another five's worth of clear crisp printing!

Fabric ribbons come with a twist to make them one-sided Mobius strips. They 'turn over' automatically and both halves get used anyway, so you can't do this to a fabric ribbon.

Ted Atkins, Hull, Yorks
Isabel Kargar, Ormskirk, Lancs,
and others

Down in the dumps

Two tips for Logo fans. For printing out, typing `tab` will clear the textlines at the bottom of the split screen without affecting the diagram. Also, typing `[ALT]0` and then `0` (zero, not O) will clear the 'Drive is' message prior to a screen dump.

Robert Samuels
Cambridge

TIP OFFS

Advice so valuable even loadsa money couldn't buy it

LocoScript driving you loco? Mystified by Mini Office? Desperate about your DTP? You've come to the right place. Loadsa tips, loadsa inside info.

Know a few tips yourself? Don't keep them a secret – tell us at TipOffs, 4 Queen St, Bath, BA1 1EJ. The best tips win £30! Plastering his walls with used fivers this month is wily scouser RJ Osborne for his marginal tip. Loadsa money, ha ha!!!

Top form

Form filling is an ideal job for the PCW. You can set up a TEMPLATE.STD with all the headings and then just fill in the details (name, address etc.) in a new document as required. You can use LocoScript's effects to make it look really professional – putting the headings in bold italic, for example, and the entries in plain text.

Unfortunately the unit markers only enable you to jump to the beginning of a line, which isn't what you want on a form. You want to jump straight to the beginning of each space to be filled in.

An easy way to do this is to set up your TEMPLATE.STD so that there's an asterisk (or any little-used symbol) at the beginning of the slot for each item of information. You can mark out boxes each of depth one line in reverse video to make it clear where the information is to go. You can stack these boxes on top of each other if you have multi-line entries (eg. addresses) to make. The business of making the forms thereafter is made very easy.

Make up a TEMPLATE.STD as follows. Set up the layout ([F2] in Loco 2, 'New layout', [F2] in Loco 1, 'Brand new layout') so that there is a tab set at the beginning of each

box and a tab at the right-hand end. There should be none in between. If you want to have different widths of box for different entries you will need different layouts for each.

Write the heading ('Name' etc.) at the left margin, then press [TAB]. Press `[+]` and [TAB] again followed by `[+]` and [TAB]. You will mark out one strip of reverse video. End with [RETURN]. If you want a multi-line box repeat this process for as many lines as you want.

When the form looks as you want it, save the TEMPLATE.STD. Now every document you create has the form ready set up. To jump to each new line to be filled in, press [FIND] and the first time you

do this give a space as the thing to be found, followed by [ENTER]. Thereafter just press [FIND] [ENTER] to jump to the next slot.

Type in information as required and remember not to press [RETURN] – the [FIND][ENTER] effectively takes the place of that. Of course the reverse video only shows on screen and doesn't print out. To take out the 's from your final document, press [EXCH] and just move the cursor down to 'automatic exchange' followed by [ENTER]. All the stars are stripped out.

Paul M Brown
Maldon, Essex



Marginally better

Notes in the margin of a document have a variety of uses — summaries, section headings etc. In Protex this is easy — you just write your margin note under a suitably narrow-margined ruler line then use the 'box' insert facility ([ALT]B) to cut this box out and paste it into the appropriate place in the main part of the document. In LocoScript the problem is you can't get this multi-column facility, so adding notes always involves compromise.

Section headings are easy: a clear case for [ALT]TAB. Set a tab stop where the left hand margin of the main text is to be and then, after typing in each section number, press [ALT]TAB. This aligns the left edge of the subsequent paragraph with the tab position as required; of course any further unheaded paragraphs will need to begin with an [ALT]TAB too.

Margin notes which go over one line will really have to go on the right-hand side of the text.

Marginally better still

Here's one way of putting margin notes into a document such that you can have your main text justified if you want.

First type the main body of the text with margins set at, say, 10 and 60. When you're sure it's OK save and exit and make an ASCII copy of it ([F1] in Loco2, [F7] Loco1). Call the new file

anything you like and put it in any group but make you choose the 'page image' option.

Then create a new empty document and 'insert text' ([F1] in Loco2, [F7] Loco1). Move the cursor over the ASCII file just made and press [ENTER] a couple of times. You lose all the italics and bolds and fancy characters, though you can put them back later on.

You see the document you typed in appear on screen with spaces at the left-hand side and [RETURN]s at the right. Put the cursor at the beginning of the document and press [F2] for a 'new layout'. Put the margins at 40 and 80 and a tab at 64. [EXIT] back to the main document.

Now go through the text and insert the margin notes by going to the end of the line in question ([EOL]) and pressing [TAB]. Type in the first line of the note (don't press [RETURN] at the end, just [EOL] to move down) making sure you don't go over one line. Repeat for each line of the note. Those returns keep the main text straight. You can change the margin settings if you want wider notes and narrower text, and the notes can go in 17 pitch to make them look smarter. Of course editing the notes or the text of the document after you've set it up will destroy the layout, so put your margin notes in at the very last minute!

R J Osborne
Pluton, Salisbury

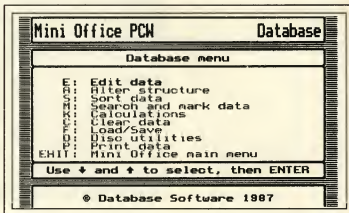
More efficient Office

Wouldn't it be nice if you could select those options from Mini Offices various menus with single key presses instead of cursors-plus-[ENTER], just like you can in LocoScript (where you can immediately select 'Save and Print' from the document edit menu, for example, just by pressing P). Well, you can!

All you have to find out which key press actions which option is to press [SHIFT][+]. Letters suddenly appear beside each option and pressing the appropriate letter selects that option.

You can put this to use in your PROFILE.SUB file. Suppose you have made a database startup disc with Mini Office's DBASE.COM and OFFICE.COM thereon, and always start off by loading the database (which can be achieved just by pressing D) then loading up a file. Your PROFILE.SUB can contain these lines:

```
OFFICE
<DEL>
which will put you all ready to type in the name of the file to load.
Martin Punch
London
```



Power up your Protex

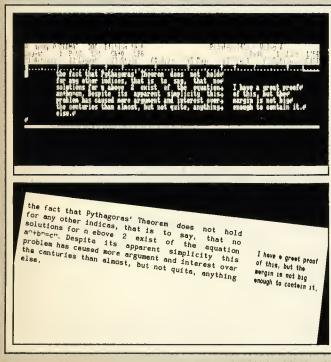
One of the few ways in which Protex is slower than LocoScript is in the use of print codes. Instead of [+:] to set italics, as in Loco, you press [ALT]X in Protex. However, it's only a matter of five minutes' work to redefine the [+:] key so it duplicates [ALT]X in one push, making Protex codes just as fast as LocoScript. The only condition is that you'll then have to use [SHIFT][COPY] to set the block markers instead of [SHIFT][+], but that's more logical anyway.

First load your Protex startup disc and then load the 'config' file from side 2. Select 'Setkeys for PCW' from the opening menu. Type in 23 and you'll see a number of columns; the ones we want to alter are the HEX codes, so press [TAB] and this puts you into them. Under the columns marked N for normal and S for shift, type 18 over the present codes. That's all there is to it! Press [STOP] twice to go back to the config menu and put your startup disc in the drive, then press 9 to save.

Another thing you can do

if you miss LocoScript's helpful automatic formatting is to include in your EXFILE the line KEY V ^218^6^ and then every time you press the [F3] key, Protex will automatically format the paragraph you're working on. Or you can just type in the line in command mode to set this up. That 'A' character is [EXTRA] or [EXTRA]; and you can execute your EXFILE with [EXTRA][ENTER].

David Griffith
London



Set keys for PCW0256/0512

Key number : 23

NN	ASCII	Hexadecimal
N	S	A
19	0	23
20	1	24
21	2	25
22	3	26
23	4	27
24	5	28
25	6	29
26	7	2A
27	8	2B
28	9	2C
29	A	2D
2A	B	2E
2B	C	2F
2C	D	30
2D	E	31
2E	F	32
2F	10	33
30	11	34
31	12	35
32	13	36
33	14	37
34	15	38
35	16	39
36	17	3A
37	18	3B
38	19	3C
39	1A	3D
3A	1B	3E
3B	1C	3F
3C	1D	40
3D	1E	41
3E	1F	42
3F	20	43
40	21	44
41	22	45
42	23	46
43	24	47
44	25	48
45	26	49
46	27	4A
47	28	4B
48	29	4C
49	2A	4D
4A	2B	4E
4B	2C	4F
4C	2D	50
4D	2E	51
4E	2F	52
4F	30	53
50	31	54
51	32	55
52	33	56
53	34	57
54	35	58
55	36	59
56	37	5A
57	38	5B
58	39	5C
59	3A	5D
5A	3B	5E
5B	3C	5F
5C	3D	60
5D	3E	61
5E	3F	62
5F	40	63
60	41	64
61	42	65
62	43	66
63	44	67
64	45	68
65	46	69
66	47	6A
67	48	6B
68	49	6C
69	4A	6D
6A	4B	6E
6B	4C	6F
6C	4D	70
6D	4E	71
6E	4F	72
6F	50	73
70	51	74
71	52	75
72	53	76
73	54	77
74	55	78
75	56	79
76	57	7A
77	58	7B
78	59	7C
79	5A	7D
7A	5B	7E
7B	5C	7F
7C	5D	80
7D	5E	81
7E	5F	82
7F	60	83
80	61	84
81	62	85
82	63	86
83	64	87
84	65	88
85	66	89
86	67	8A
87	68	8B
88	69	8C
89	6A	8D
8A	6B	8E
8B	6C	8F
8C	6D	90
8D	6E	91
8E	6F	92
8F	70	93
90	71	94
91	72	95
92	73	96
93	74	97
94	75	98
95	76	99
96	77	9A
97	78	9B
98	79	9C
99	7A	9D
9A	7B	9E
9B	7C	9F
9C	7D	A0
9D	7E	A1
9E	7F	A2
9F	80	A3
A0	81	A4
A1	82	A5
A2	83	A6
A3	84	A7
A4	85	A8
A5	86	A9
A6	87	AA
A7	88	AB
A8	89	AC
A9	8A	AD
AA	8B	AE
AB	8C	AF
AC	8D	B0
AD	8E	B1
AE	8F	B2
AF	90	B3
B0	91	B4
B1	92	B5
B2	93	B6
B3	94	B7
B4	95	B8
B5	96	B9
B6	97	BA
B7	98	BB
B8	99	BC
B9	9A	BD
BA	9B	BE
BB	9C	BF
BC	9D	C0
BD	9E	C1
BE	9F	C2
BF	A0	C3
C0	A1	C4
C1	A2	C5
C2	A3	C6
C3	A4	C7
C4	A5	C8
C5	A6	C9
C6	A7	CA
C7	A8	CB
C8	A9	CC
C9	AA	CD
CA	AB	CE
CB	AC	CF
CC	AD	D0
CD	AE	D1
CE	AF	D2
CF	B0	D3
D0	B1	D4
D1	B2	D5
D2	B3	D6
D3	B4	D7
D4	B5	D8
D5	B6	D9
D6	B7	DA
D7	B8	DB
D8	B9	DC
D9	BA	DD
DA	BB	DE
DB	BC	DF
DC	BD	E0
DD	BE	E1
DE	BF	E2
DF	C0	E3
E0	C1	E4
E1	C2	E5
E2	C3	E6
E3	C4	E7
E4	C5	E8
E5	C6	E9
E6	C7	EA
E7	C8	EB
E8	C9	EC
E9	CA	ED
EA	CB	EE
EB	CC	EF
EC	CD	F0
ED	CE	F1
EE	CF	F2
EF	D0	F3
F0	D1	F4
F1	D2	F5
F2	D3	F6
F3	D4	F7
F4	D5	F8
F5	D6	F9
F6	D7	FA
F7	D8	FB
F8	D9	FC
F9	DA	FD
FA	DB	FE
FB	DC	FF
FC	DD	
FD	DE	
FE	DF	
FF	E0	

Printer's working weak?

Printers which have been in service a year or two lose traction and paper starts to slip as it's being fed in, due to 'roller shine'. A solution to this is to take a rag and some methylated spirits and clean the roller. The mths won't attack either the roller or the plastic casing. A surprising amount of black stuff comes off but eventually stops, when your roller should be back to its normal rubbery self. Prof. DR Wilkie London

Layout your copy

You can put all sorts of things into phrases in LocoScript including

codes. For example, changing layouts can be speeded up if you copy a phrase such as (+Layout1) into 1 (put the cursor before the code, press [COPY], move it to the end, press [COPY] again followed by 1). Then to insert the layout 1 into a document you just type [PASTE]. You can also include carriage returns, tabs and so on.

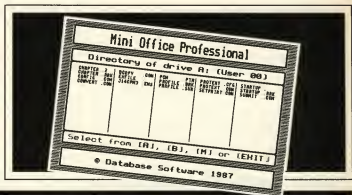
You can also use this for any set of instructions used frequently – for example underlining from the position of the cursor to the end of the page is achieved by the sequence (+UL)(+RA)(-UL) (in Loco 2) or (+UL)(+R)(-UL) (in Loco 1). This can be copied as above into a phrase under L say. Then [PASTE] draws a line to the end of a page for you. Joan Nugent Liverpool

Office Directory

When you've got Mini Office in Load or Save mode, or of course in 'directory' mode, you have a directory of all the files on your disc. If you do a screen dump (EXTRA)(PTR) the result, when

trimmed to size, exactly fits the standard plastic disc case, giving you a quick way of making up-to-date disc labels.

Mary Turner
Dartmouth



Desert Island Tipoffs

The weekend starts with Friday – but who needs a Friday when you've got a PCW? A miscellany of one-line time-saving tips to keep your weekends free on your paradise island...

1. Erase a laugh

Ever had the problem of wanting to erase all 33 files on that disc except one? Instead of typing 32

LocoScript? You don't have to. Suppose you're exiting a document, a menu appears giving you those options to Finish edit, Save and Continue, Save and Print, or Abandon edit. Press A and you jump straight to Abandon edit; SP takes you to Save and Print, etc. This works for all menus.

time out until you resume with [F3] (or stop with [STOP]).

5. How low can you get

Sometimes the above tip doesn't work (with, for example, games like TETRIS). This is because the program works at a 'lower level' than the [F3] key. The [PTR] key is lower still, and if you want to pause for breath in your TETRIS game, just press [PTR] and then [EXIT] to resume.

means that you'll have to keep jiggling the page numbering to make the third document follow on from number two and so on after you've edited number one and so on.

The quickest way of finding out how many pages a section has without actually editing it is to press P for print, select the 'print some pages' option, and note what the lastpage in the document is. You can then press [CAN] to abort the command and set the page number of the next document appropriately.

6. At your command

You can string a series of commands in CP/M together if you separate them by an exclamation mark. If for example you want to copy some files to the memory, then run BASIC, you can just enter the line PIP M:-A:BIGFILE.DOC!PIP M:-A:BASIC.COM!M:BASIC and watch your wishes be carried out.

8. STOP before you start

Often you want to start CP/M up to get to the A> prompt but the only disc to hand has a wretched PROFILE.SUB on it which will reel off a series of fifty commands. All you have to do is press the

```

9
M:dir
M: BASIC COM : PIP COM : TIPOFFS 021 : ERASE COM
M:ERA *.M[0]
M: BASIC .COM (Y/N)? n
M: PIP .COM (Y/N)? y
M: TIPOFFS 021 (Y/N)? y
M: ERASE .COM (Y/N)? y

M:dir
M: BASIC COM
M:

```

erase commands, just type ERA *. * [C] (you'll need a disc with ERA.COM on it in the drive; alternatively, copy ERA to the memory with by putting your systems disc in the drive and typing PIP M:-ERA.COM and type M:ERA in place of 'ERA' above).

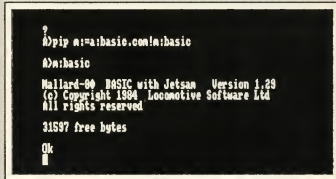
The PCW will delete all files but will ask you to confirm each erasure with a Y or N; type Y for all the ones to junk and make sure you press N for the ones you don't!

3. Run faster

How do you run a BASIC program called say SAM.BAS from CP/M? Easy, just type BASIC at the A> prompt, then when the 'OK' prompt comes up, type RUN "SAM". But you can do it faster – back in CP/M, type BASIC SAM and the program runs as normal. When it's finished you're returned to the A> prompt.

4. Stopping and starting

Ever wanted to stop a CP/M application, such as PIP, or a BASIC program, in midstream? If you press [F5] your PCW takes a



2. Quick menus

Fed up of using the cursors to select menu options in

7. Loco 1 countdown

If you're using LocoScript 1 to write long documents you will be storing them in small chunks. This

[STOP] key a few times when you see the opening messages appear on the screen and the PROFILE.SUB won't run.

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THE GOOD SOFTWARE FILE

These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Databases, Education, Communications and Programming packages to face the ultimate test. We've set out to cover every important piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

The software listed here represents what we consider to be the best of the many programs available. As well as a brief summary of what they do, the main Plus and Minus points for each program are listed - Pluses have a ☐ by them, and Minuses a ☐. Those we think are particularly noteworthy have a flash on them.

To the best of our knowledge, all the programs here should run on both 8000 series machines and the 9512.

• DATABASES •

There are broadly two different types of database, and which suits you best depends, of course, on what you want it for.

Firstly there's the simplest card index substitute. For many home users, this will be the kind of thing you want - all it does is store your address book or stock items so that you can easily look them up.

A more sophisticated option is the programmable database. With these, in addition to allowing simple card index retrieval there is a command language which allows you to analyse the data on the cards. For example, you could automatically add up the money owed to you by all your customers from Yorkshire. To make best use of this kind of facility, you will need to be able to understand a little programming, although it's not too hard really.

A bit of jargon now. A database is said to consist of records - this is just like a card in a conventional card file, with all someone's details on it. Each record is composed of fields - a field is a single entry on a card, like someone's name, or age, or postcode.

The thing that makes a database special is an index. You might be able to hold your year address book as a simple list in a word processor document, but if it gets large then this becomes unwieldy. An index means that the database has worked out which order records should be in, so it can go straight to the one you want without looking at lots of others first.

The field that you use as your index (e.g. someone's surname) is said to be a key field, and can be looked up very fast compared to

"non-key" fields. A good database will allow multiple keys, meaning that it can look up data just as fast for a variety of types of information.

MASTERFILE 8000 £49.95 • Campbell Systems • 0378 7762/3

A specially written PCW version of the successful database sold on other Amstrad computers. Its fully menu controlled, and makes good use of the PCW's special screen and keys. It can deal with up to 8 separate data files at once - you can cope with relational databases. Screen (did not print) output can be elaborately laid out with boxes, lines etc.

PLUSES - MINUSES

- Works fast
- Wide range of Layout options
- Handles "relational" files
- Plenty of good example files
- Can do arithmetic calculations within its records
- Capacity limited by size of M drive - best on an 6512
- Takes a while to learn all the features

ATLAST £39.95 • Rational Solutions • 0566 81511

Recently released "revised version with new manual and a new price. Atlast Plus is a full featured database that is excellent value for money. It does what Cardbox did, with much better reporting facilities, and easier to use. You can do simple tallying of columns, but not general sorting and editing in a record. Its claims to be a true "relational" database like dBase. It has a little grandiose, but a good general purpose database - recommended.

PLUSES - MINUSES

- Good screen editing facilities
- Constants enable insertion of repetitive data.
- Good on storage space - ideal for 8256 owners
- Handles names and addresses well.

- Still no arithmetic calculation in field
- Setting up the database is at first confusing - function of SYS file unclear
- The manual is better than the old one but could be further improved for beginners.

MINI OFFICE PROFESSIONAL £29.95 • Database Software • 0625 878888

Mini Office is a suite of five practical programs - database, word processor, spreadsheet, graphics module and forms package. The database is a pretty standard card index type, similar to First Base. Good range of selection operations and arithmetic on fields. Can produce a combination of fields and print out a variety of smart layouts, and you can have up to 255 fields! Of course you're getting four other very good programs as well. The big problem is that you can't import data, so any data you already have must all be re-entered. No export either.

PLUSES - MINUSES

- Easy to use and intuitive
- Can use the data in the word processor
- Powerful selection and sort facilities
- Arithmetic on fields
- "Test print" facility lets you check your labels will print OK
- Can make global changes, e.g. change £3.50 to £5 in all records with one command
- Can't import or export data
- Manual is of very little use

CAMBASE £49.95 • Camsoft • 0766 831878

Cambase is very strong on data security - you can define passwords to protect sensitive databases. It is driven by quite an intricate set of menus, and you'll have to plan your application carefully since the database format can't be changed once set up. Generally good for writing applications with.

PLUSES - MINUSES

- Sensitive data can be protected by a password system
- Record structure can be conditional - e.g. "only have a 'spouse' field if status is 'married'"
- "Processes" provide for some simple automatic calculations
- Over-protective user interface, which asks for confirmation of almost every command
- Database main attributes are fixed after initialisation and can't

THE GOOD SOFTWARE FILE

DATABASES • EDUCATIONAL

be changed.

Doesn't have full screen editing of records. Manual needs an index, and is weak on advancing past records. The (single) key field has to be entered separately to the record data proper.

DELTA

£99.99 • Compositel • 04868 25925

Delta is another of the heavyweights, like dBase II and Concord, but unlike them it's menu driven. Although the screen layout is fully flexible, there is a definite 'rules' layout so you do have to sweat at defining your own. It could use better reporting facilities. Particularly good for writing applications, once you have ploughed through the large manual.

PLUSES • MINUSES

Records can contain up to 90 fields, plus groups of fields that may be repeated. Screen layout can be user defined, or 'quick' mode used. Single steps after writer provides detailed mail merge. Processes can be defined, and run from user defined menus, for ease of use by others. Very full, and quite readable, manual. Only one field may be used for indexing. Very big program — a PCW8256 would be hard pushed. Some of the menu operations are unforgiving to errors.

POCKET INFOSTAR

£69.50 • MicroPro/DRA • 0386 841181

Consists of two large programs, DataStar and ReportStar (both available independently). DataStar is a conventional database, with screen card layout and indexing. ReportStar then generates the printed output, either from DataStar or CalcStar. Powerful if you can use them, but the suite is horribly overcomplicated, and the documentation just incomprehensible.

PLUSES • MINUSES

DataStar is a quite good database with indexing and calculated fields. Transaction processing feature allows cross referencing of data files. Can be integrated with other Pocket products, eg WordStar. Can take up to 255 fields per record. Two-volume manual set is very badly organised. There are separate programs to run for form design, data entry and reporting. Operation is all by obscure command keys, a la WordStar.

CARDBOX PLUS

£99.95 • Business Simulations • 0892 863105

Business Simulations are the company who actually wrote the successful Cardbox database, and they are the sole distributors of their enhanced version Cardbox+Plus. Disappointingly, still no field totalling facilities, but it does boast sorting, index listing, disc management and an autosave feature as extras to Cardbox. The ultimate straight card index, if you have the money.

PLUSES • MINUSES

All the facilities of the very successful Cardbox. Cards can be sorted into order for browsing and printing. Autosave will regularly store the data to disc in case of mishap. Files created by Cardbox can be read. Full and good manual, although the tutorial is at the end. Still no way of performing numeric calculations. A lot to pay for a few frills to the basic Cardbox.

CHIBASE

£49.95 • Chiasma • 06333 60996

A free format database, which means you don't have to go through the usual rigmarole of defining your record format before you can enter your data. Instead, you just type text into Chibase, mark the words to be indexed, and it can then treat the file as a database.

PLUSES • MINUSES

Doesn't require you to set up a preset record card. Searches through your data very quickly. Allows you to select up to 50 keys for each page of text. Allows editing of text without a word processor. No sample file for you to learn on.

DBASE II

£99.00 • Ashton Tate/First Software • 07357 5244

The WordStar of database packages. Recently licensed

'cheaply' for Amstrad machines, dBase II as a market leader in business computing. As you would expect, this means it is very powerful, but very complex. It has a procedure language to allow you to write programs to manipulate the data, and you can construct index files for really fast access to large databases. If you can make the effort to learn it, it'll serve you well.

PLUSES • MINUSES

Powerful internal language for customised programs. Indexing facility enables large databases fast to handle. Can handle very big databases. The data can be fairly easily altered after its entry. Manual is daunting but there are plenty of independent books on the market. Can't easily alter the screen record layout. For an expensive package, you still only get 32 fields per record. Generally unfriendly unless you have some programming skills.

FT=DB

£29.95 • Encyclosoft • 0270 811868

A free form database like Chibase, but instead of typing your text into the database itself, you create it on a wordprocessor first of all. Once done and edited to your liking, you mark all the words you want to be used as keywords (all in your word processor) and then read it into FT=DB. Now you can treat it as a database, compile indexes, search for phrases and so on, all quite efficiently.

PLUSES • MINUSES

Easy to use. Versatile retrieval system over several text files. Inexpensive. Can move between index and text at will. No editing facilities within FT=DB.

FIRST BASE

£29.95 • Minerva • 0392 37756

Billed as a simple database for the first timer, First Base is quite a competent cheap card index. The manual is computer printed, and weak on diagrams which doesn't help things. One weakness is getting printed results out of First Base — either you suffer for crude files, or you have to create a template in LotusScript which is awkward to do. But overall, for simple applications and beginners, it's pretty good value for money.

PLUSES • MINUSES

Can sort the index file at any time. Simple house screen editing makes data entry easy. Good value as a simple card index lookup system. Can easily browse through the database picking out a set by name. Manual is badly laid out and generally difficult. Printed output is awkward.

SAGESOFT RETRIEVE

£70 • Sagesoft • 091-284 7077

A high power package that is relatively easy to use with password security if desired, calculations, automatic counting or deletion of sets of records satisfying given conditions. It also has sophisticated search and select commands, and change the structure of an existing database. All this is done by a set of commands rather like a programming language. Printed formats are rather limited though and the program insists on using both drives, making use on a 8256 impractical.

PLUSES • MINUSES

Easy to use for a powerful package. Advanced sorting and selection commands. Subsets can be written to files. Can count or delete subsets with one command. Labeling/mailing routines included. Can change structure of existing database. Impossibly big program for £256. Printed output limited — must use mailmerge.

MICROFILE

(Sold in The Micro Collection)

£49.95 • Saxon Computing • 0401 505697

Microfile is a well implemented simple database, driven by plenty of menus and on-screen prompts. It's fast and has good screen control, although it has some size restrictions. Microfile comes as part of a software suite, 'The Micro Collection', which is good value (Microfile, Microwrite, MicroSpread, Planabell and Hard to Load).

PLUSES • MINUSES

The price includes competent word processing, spreadsheet,

labelling and encryption programs.

Plenty of menus and on-screen prompting. Very flexible formatting for screen layout and printing. Numeric fields can be expressions to be calculated. Indexing is fast and can be on several fields. Maximum number of fields per record is only 20. Limited facilities for totalling up fields in a database.

SMARTCARD

£59.95 • Focus Computers • 0272 420109

A conventional card index database which is now the nearest thing available to Cardbox. Small and fast, you can sort the records index up to three fields and do simple arithmetic in fields. Can't put background text (eg. titles) on records or printouts.

PLUSES • MINUSES

Good clear screens. Plenty of on-screen help. Fast and high capacity. Easy to use. Can't put background text on printed reports. No way of exporting data for mailmerge.

DATABASE II

£39.95 • Digita • 0395 45059

Another standard database, written in BASIC and using Mailed's famous JETSAM commands. It's therefore slow in some parts though version 2 is considerably faster than 1. Simple to use, has calculation facilities and a good control over the printed output — your printouts can be made to look very impressive. You have to set the maximum number of records you want before you start, which is tedious, and browsing is slow.

PLUSES • MINUSES

Good range of print format commands. Simple to use. Calculation facilities — OK for accounts use. Nice touches eg. text automatically adjusts size to fit printout. Must set max. no. of records on setting up database. Only two print formats per database. Slow at browsing though.

FILE MANAGER

£99.95 • Sandpiper Software • 0978 355333

A database with the power to handle full relational applications. Unfortunately the manual is so badly written that the power is hard to get to. For the money, there are better systems around.

PLUSES • MINUSES

Potentially a powerful and flexible system. RAPID generator can produce simple files quickly. Appealing manual. Poorly customised for PCW use. The full system is very complex to use.

HOMVIEW

£195.44 • Cavalier/Load & Run • 0322 72116

A specialist database for the Estate Agenting business. Costs a lot, but then all you estate agents should be able to afford it from your outrageous commission fees (yes, the 8000 Plus staff are all about to move house). You specify required area, no. of bedrooms etc, and get a list of suitable vendors or buyers. Works well.

PLUSES • MINUSES

Once set up, simple enough for non-computerate staff. Makes up mistakes from LotusScript. Can adjust property categories to suit. Impresses your customers! There will always be clients whose requirements don't fit your system. Very expensive.



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£24.95 • Iansyst • 01-607 0187

A fairly traditional typing tutor, taking you through basic keyboard exercises. There's a lot of explanatory text, which gets in the way second time around. Definitely competent, but a bit tedious.

PLUSES • MINUSES

- Mostly avoids boring writer drills.
- Very full on screen information guides you to the point.
- Fastidious correction of text if it gets repetitive.
- Not particularly imaginative use of graphics.
- It doesn't always ensure that the cursor is properly aligned with the exercise text.

2 FINGERS TOUCH TYPING

£24.95 • Iansyst • 01-607 0187

Despite its provocative name, a useful typing tutor in that it specifically caters for people who can already get by on keyboards with two fingers. You are gradually introduced to touch typing, so your speed doesn't drop while you learn. Fits a necessary slot in the Typing Tutor market.

PLUSES • MINUSES

- Suitable for improving two-finger typists without much drop in speed.
- Full on-screen instructions.
- Exercise material is interesting text, not letter drills.
- Explanation text is annoyingly verbose in some lessons.
- It doesn't always ensure that the cursor is properly aligned with the exercise text.

GIANTKILLER

£14.95 • Topologika • 0733 244682

A mathematics adventure game loosely based on Jack and the Beanstalk. Lots of intriguing puzzles which should stimulate any student up to GCSE standard. Not the best adventure game ever written but great for making mathematics fun!

PLUSES • MINUSES

- Puzzles pleasantly integrated into scenario.
- Progression of game is simple and well defined.
- Puzzles introduce a lot of valid mathematics.
- Program understands only very simple commands.
- Saving a position takes a move – can be fatal.
- Won't be of particular help in exams.

ANIMAL VEGETABLE MINERAL WORLD WISE

£14.95 each • Bourne Educational • 0794 523301

Aimed at the younger market, 7-15 year olds. Both these programs work by learning as the child uses them. Think of an object and the computer tries to guess it. If it is wrong, the child is asked for a question which would allow the PCW to be right next time, and it learns.

PLUSES • MINUSES

- Can be used as many times as the child's imagination holds out.
- Performance can be analysed by a teacher after a session.
- As you build up a base of objects and questions, they can be saved for reuse.
- It needs a lot of supervision.
- The PCW starts with only two objects known, so it takes time to get going.
- Documentation has hardly been altered from cassette-based versions.
- Since it is for young children, more imaginative use of the screen would be nice.

BETTER SPELLING

£12.95 • School Software Ltd • 010 353 61 27994

This is a spelling course aimed at the 8 to adult age group. It consists of a series of well organised, short lessons each

dealing with one topic, like plurals or which version of there/their they're to use in a sentence. The use of the PCW screen is rather unimaginative, and doesn't hold your attention PLUSES • MINUSES

- Well thought out lessons to emphasise particular points.
- Teaches words in a sentence context as well as in isolation.
- Lessons can be picked in any order from a menu.
- Seems to be proof against mischievous key pressing.
- Boring use of the screen doesn't grab interest.
- No instructions come as to how to use the program.

CHEMISTRY • BIOLOGY

£12.95 • School Software • 010 353 61 27994

These two are fairly traditional question-and-answer tests. You are faced with a choice of 10 topics, and then asked 10 or so questions each, where you have to fill in the blank in a statement. There are preamble notes beforehand, and if you get it wrong you are given a clue. Aimed at 12-16 year olds.

PLUSES • MINUSES

- Questions would challenge a GCSE pupil well.
- Preamble notes introduce topics.
- The fill-in-the-blank questioning style has little flexibility for different answers.
- No option to add questions for a specialised syllabus.
- Some careless errors, like incorrect facts and hard to decipher chemical formulae.

MICRO MATHS

£24.95 • LCL • 0491 579345

Supposedly covering 6 to adult ages, this claims an O-level type programming topic from calculators. A good implementation on the PCW, with propriety of the screen. Questions are picked at random from a pool, so may repeat but nevertheless fun. Replies to questions are typed in mathematical notation.

PLUSES • MINUSES

- You can pause to use BASIC as a calculator while you think.
- Unlimited questioning.
- Comes with a 'free' book of AEB O-level questions.
- Good hints and explanations when you get an answer wrong.
- Questions in a topic repeat occasionally.

- Some trivia, like the clock and beeper, are annoying.
- No flexibility to add questions for a particular syllabus.

AMSTAT 1,2,3 AND 4

£30-ish • Coleman • Ashby-de-la-Zouch LE6 5DA

A suite of four statistical routines including a business analysis program, forecasting and resource management. Individual prices range from £27.95 to £39.95, all four cost £99.95. Sophisticated but perhaps awkward for beginners.

PLUSES • MINUSES

- Good range of statistical functions.
- Good manual.
- Can produce fair quality graphical results.
- Some editing procedures very long-winded.
- Needs some expertise to use properly.
- Weak on checking that input data is reasonable.

OXSTAT

£113.85 • Medstat Ltd • 0602 411120

This is a specialised statistical analysis package for the PCW. Functions from calculations of means to multiple linear regression are covered, and it can do some rudimentary graphics for results. You can read data from spreadsheets or external devices.

PLUSES • MINUSES

- Comprehensive range of statistical functions implemented.
- Good screen editing facilities for entry of data.
- The speed seems acceptable, even though it is written in BASIC.
- Even complex analyses are easily entered by simple menus.
- Weak on graphical presentation of results.

YES CHANCELLOR!

£14.95 • Topologika • 0733 244682

Wait! Don't skip over Yes Chancellor! because it calls itself an economic simulation program. Instructive and fun to use, you type in your annual budgets (tax rates, public spending etc.) and see your popularity plunge and the economy crash. Great for economics classes, also an amusing game in itself.

PLUSES • MINUSES

- Simple but effective model of the economy.
- Comes with booklet explaining economic principles.
- Great for teaching economic and political pragmatism.
- Can get boring as a game.
- You can't adjust the model of the economy, so it can be too simple.

COMMUNICATIONS •

Communications is one of the glittering areas of computing gurus would have you believe. It can provide a fascinating hobby for 'hackers', but more importantly it is a valuable business tool.

Electronic mail is just what it says: you use your PCW to send messages, which can be documents, thousands of words long, to others on the electronic mail system. The best known system of this kind is Telecom Gold, which also allows you to send telexes. Another major system is Prestel, which is more of an information provider – you can read share prices, weather information and other news direct from your phone line.

For any professional service, you pay a registration fee, plus a connection charge – typically around 10p per minute you use the system. Of course, your phone bills are extra. For hobbyists there are also Bulletin boards, which are effectively a kind of private electronic mail system run by a system operator (a 'sysop' to use the service).

To use any service, you will need to buy a modem and an interface. A modem allows you to send computer signals down a phone line, and the interface gets the signals from your PCW to

your modem. The pair will set you back £200 or more. Once done, you need some software to allow you to send and receive data, and it is this software reviewed below.

Electronic mail services just send strings of characters to and from, whereas Prestel is a 'Viewdata' system, meaning it sends pictures and graphics too. Software needs to do more to receive Viewdata graphics, so if you want to use Prestel make sure your software is up to it.

8256UKM7.COM

Public domain (ie. free!)

P.D. software documentation is often poor but this program has an above average document file. UKM7 was written to support ASCII file transfers using error correction and as a dumb terminal either for use over the phone or between two Amstrats. Between two PCWs file transfer is possible at a staggering 31,250 baud which is even faster than Pip! Easy to use for beginners and better than KERMIT. UKM7 provides a cheap and excellent way to communications after you've got fed up with the PCW's MAIL232. 8256UKM7 is available from the Public Domain Special Interest Group, or most bulletin boards supporting the PCW machines.

PLUSES • MINUSES

- Cheap! (plus the price of a phone call).
- Easy to use, and helpful menus.

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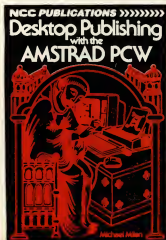
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TRADE ENQUIRIES WELCOME - TELEPHONE

Russian roulette

I recently purchased a copy, which was supplied on 180K disc, from which I made a start of day disc which booted CP/M Plus, using the 8000 copy routine, and made it a suitable PROFILE.SUB. When I attempted to load this disc into my PCW 9512 after a few moments it beeped and displayed the message "WARNING. PROGRAM INPUT IGNORED".

Nothing daunted, I cleared the computer, loaded CP/M and then attempted to load from the supplied disc. This time I received the message, "THIS DISC IS AN ILLEGAL COPY" which was accompanied by a locking of the keyboard, so that the only way to clear the computer was to eject the disc and switch off.

I returned the program to my dealer, who tried it on an 8000 series machine, and it ran with no problem.

Perhaps you could also explain why some games will only work on the 8000 series machines, as both these and the 9512 use CP/M, the use of a DMP is not involved, and the 8000 copy routine allows the

POSTSCRIPT

A glut of glee, gloom and glowering glossed over by a glassy-eyed Ed.

More comment and criticism on vital matters of the day. Under perusal this time are printwheels, piracy, postal delays and portable PCWing. If you have anything to say about anything, this is your chance to be heard: tell us at *PostScript*, 8000 Plus, 4 Queen St, Bath BA1 1EJ.

the protection routine fouls things up. In theory anything which runs on an 8000 should run happily on a 9512 but this obviously isn't the case. Mirrorsoft say a 9512 version is coming.

Everyone knows that Tetris is a Russian game, but does anyone out there know what 'Tetris' actually means? ■

Mini Office: The Case for the Defence

I would like to respond to last month's letters about Mini Office Professional.

As you can appreciate, the programming of this suite of programs was a formidable undertaking involving over 18 months work. Debugging the more than 300k of machine code was a major headache due to the complexity of the programs, but we felt it essential to ensure that the programs were free of bugs before we released the package. However, as your readers have discovered, we failed to remove them all.

The majority of the problems referred to in your letters page were put right within one month of the launch in December 1987. Since then we have corrected minor problems as they have materialised, as well as enhancing the package to allow pulse dialing in the communications module.

To date we have sold in excess of 40,000 copies of Mini Office Professional, bringing the total sales of the Mini Office range to more than 400,000 units. We have received many letters from very satisfied customers, but we apologise unreservedly to those individuals who bought version 1.0

and found problems. Any reader who has version 1.3 or earlier can obtain the current version by sending their discs (without the packaging) to The Customer Services Department, Database Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

Looking at some of the other comments made by our readers, I would like to say that we thought long and hard about Drive M and decided that there were far more benefits if we used this area to allow users to work with massive spreadsheets (up to 320k in size on a PCW 8512) and long word processor documents (up to 336k on a PCW 8512).

The database module has been carefully designed to cope with the vast majority of applications, but sadly it is not possible to extend the length of fields, nor is it possible on any database costing less than £200! When setting up a database structure it is essential to plan the field lengths and types very carefully before you start entering data, and we do make this quite clear in the manual.

Regarding some of the other comments by your readers, I will be writing to them individually to attend to their queries.

John Hudson
Software Development Manager
Database Software

Copyrights and wrongs

In PostScript (May 88) you state that an owner of a 9512 can transfer their LocoScript 2 to their 8512. I hope you can tell me

exactly how to do it as I've tried everything that I can think of and all I get is a message telling me my version of LocoScript is 'incompatible' with my 8512. This hardly surprises me, as I'm too cynical to believe that Amstrad are giving away software that other people have to pay £20 for.

Keith Heron
Manchester

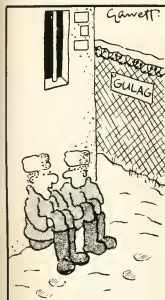
8000 PLUS Sorry, this was a misprint in your edition, as Locomotive have pointed out to us. The phrase 'yes' should have read 'No, and even then think of trying it mate, or you'll be breaking the licensing agreement, you aren't allowed to copy LocoScript 2 from your 9512 to your 8512 even if you own both machines and it won't work anyway'.

Although there are obviously a lot of pirate copies of any piece of software around, Locomotive have less to fear from it than most as LocoScript 2 is extremely reasonably priced and has an excellent manual, so prospective pirates have no excuse for not buying it. Software copyright is a tricky thing and the moral situation is debatable, unfortunately the legal situation ain't. ■

Name and address withheld

I run a club of 'wrinkles' out in Spain. We use our PCWs for a variety of purposes including playing a lot of games. However, when we tried to copy Scrabble as you would normally do to make a back-up copy, it didn't work. So one of our bright sparks said, if it's not a CP/M program, maybe it won't copy under CP/M, so let's try LocoScript. He did

8000 PLUS 85



"ME? - I WAS CAUGHT WITH A PIRATE COPY OF TETRIS."

conversion of 180k discs to 720k format.

Peter G Bell
London

8000 PLUS Why Tetris doesn't run with a PROFILE.SUB file we've no idea. In fact, why it doesn't run on a 9512 (like many other games) leaves us mystified as well. Our review copy worked fine on ours, but it was a pre-production version without copy protection; obviously

POSTSCRIPT

this, but the copy we got only displayed the message "THIS IS AN ILLEGAL COPY".

To make matters worse the old version wouldn't work either. We realised that (our eyesight) we'd used 'Move' instead of 'Copy' in LocoScript. So we copied the new copy back on to the old disc. We reloaded Scrabble and waited with bated breath... alas, it loaded OK, but we will go no further than asking us if we want to play a game continually.

We are all quivering in our shoes that we dare not apply to the makers of Scrabble in case we have done anything illegal which we have never done!

So, knowing what kind honest caring people you are, can you do something for us and get us another copy somehow without revealing our identities? And also - can you please make an appeal for any software makers to mark clearly on the packaging that a disc is not to be copied, even for backup?

Anonymity
Spain

8000 PLUS You've nothing to worry about, Mrs Wigginton. Scrabble distributors Virgin say they'll be happy to replace the disc so long as you send a covering letter saying how you honestly weren't trying to make a rip-off copy for your friends in Java, Alcantara.

Games are traditionally copy protected because the main market consists of impecunious minors who are thought more likely to give (or sell) copies to all their friends. 'Serious' software such as spreadsheets or databases tends not to be copy protected; the users are thought to be older, maturer, and richer, making them unlikely to copy such programs. Besides the program is often impossible to use without the, ahem, clear and well-written manual.

But Virgin did agree that it would be a good idea to put something in the manual or on the box saying the disc is copy protected. If a few people write to them about it this might even get done.

Sub standards

Why have I had to phone your office four times to find out where my subscription copy of the magazine has got to? In nine months, two copies never arrived, although you kindly sent me another copy when I bought the matter to your attention, and the others arrived any time of the month from the first to third weeks. It is frustrating to see the magazine on sale in the shops while patiently waiting for your own copy to arrive.

As a subscriber I would have expected to have received my magazine before it appears in the

shops, or at least on the same day. This, surely, is one of the reasons for taking out a subscription. 'You get your copy right from the printers to your doorstep so no more frustrating searches for a newsagent who hasn't sold out' you say! Ha! In my experience, no newsagent would have the copy I wanted, it would have been returned unsold weeks ago.

KJ Ransley
Broadstairs, Kent

8000 PLUS In theory the PO has six days in which to deliver your copy second-class before 8000 Plus appears in the shops. They won't accept bulk first-class mailings (there are around one and a half tonnes of 8000 Pluses going out by post every month). Also, 8000 Plus has a very large number of subscribers - 8,000 - so statistically a few are bound to be delayed every month. Regular delays clearly shouldn't happen - in the past local sorting offices have been shown to be at fault.

Anyway, we're looking into the possibility of farming out our subscription mailing to a specialist mailing company.

Heavy sheet

I bought Mini Office for what I thought was a simple spreadsheet application. I have a spreadsheet with a number of rows, and I want to sort the data in ascending numerical order of the number appearing in the seventh row. I have written to Database Software and they say it can't be done though their advert likens their spreadsheet to SuperCalc 2. Can you help?

Miss E MacMillan
Weymouth, Dorset

8000 PLUS There's no 'sort' facility on the spreadsheet. If only you could export data, you could write a

Ode to Philip Swallow

Dear Mr Swallow, that nasty squeak Doesn't mean you drive is past its peak. It may be your disc; the plastic wheel Gets worn, and that's what makes it squeak. Copy your work to disc brand new And your problem should be solved for you. In future mark your discs with the date When you formatted them in a pristine state. Use your oldest discs as backup copies, And always work with your newest floppies.

Maggie Rugg
Exeter

simple BASIC listing to sort it for you - but you can't export data.

It's no use either employing PUT.COM to send all the printer output to a file and get the spreadsheet figures effectively exported by then printing them, as the file is corrupted by printer control codes. So it looks like you can't do it.

Exposed

From time to time I read pieces in your letters page about mail order suppliers not coming up with the goods, or, at least, taking a mighty long time to send them.

Can I ask you, some time in the Future, to do a little expose on the company with its special offers department based in some Old Barn in deepest Somerset.

If you take up this company's special offers, the goods never arrive because, they say, the Martians keep hijacking the Highlighter Pens or the Venusians keep snaffling the colour-coded disk labels!

When patience runs out (after two and three months) and you phone up, the charming young lady on the other end of the line always assures you that the goods will be sent off in the near Future (sic).

Is there any future for Future's future special offers or are they like tomorrow? There certainly doesn't seem much of a future in waiting for January's now that May is nearly here!

David Yates
Kingston-upon-Thames

8000 PLUS We sent a reporter down to this so-called 'Old Barn'. A would-be spokesperson for the self-styled 'Special Offers', oh yes I don't think, department, wearing dark glasses and refusing to be identified, said: 'We ran out of pens and labels rather faster than we anticipated. Fresh supplies take eight to

nine weeks to arrive, and we dispatched the latest lot yesterday - so Mr Yates should have his by now. Unfortunately we've just run out again, so if you've just ordered some, it may take a few more weeks.' She then beat up the reporter.

Listing after something

I bought Mini Office for my PCW and have spent the last two months downloading a pitiful handful of listings by trial-and-error using Microlink. I can type these listings to screen, view them, save them - anything except run the wretched things!

On attempting to RUN the programs I merely get a 'Direct command found' message. Please, what obvious stage am I missing?

Mrs P Miller
Glasshouse, Harrogate, Yorkshire

8000 PLUS 'Direct command found' is the message you get if you try to run a BASIC listing which has (surprise surprise) direct commands in it - ie. a line without a line number at the beginning. It follows that if you've saved the listing in such a way that long lines are broken into two, you'll get this message.

Try having a look at the listing in a word processor (in LocoScript, insert it into a blank document using 'Insert text'). Five gets you ten there'll be one or more lines broken - just unbreak them by deleting the [RETURN]. Save the amended listing,

PS - this is illegible

Having read in April's 8000 Plus of the new Thesis PS daisy wheel for the PCW 9512, I got my local dealer to get me one.



'ACTUALLY ARMY INTELLIGENCE ARE CONSIDERING USING IT FOR ENCODING MESSAGES'

make an ASCII file of it and try running that.

Disgusted

I am writing to protest in the strongest possible terms at your unapologetically behaviour by commencing a series of articles explaining how to use 'Mini Office Professional'. Do you think I would have purchased this software if I had actually wanted to USE the database? Where is the fun in a spreadsheet that does what it is told, first time? And, as happy as I am with LocoScript 2, why do you think I want another word processor, if not for the fun of conquering the manual??

I admit that instructions for the graphics program are disappointingly easy to follow, but have found that this is more than compensated for by the challenge of incorporating spreadsheet data directly on to a graphics file. And you intend to make such knowledge freely available!! Why are you doing this?? Can you imagine the uproar there would be if you printed the full solution to every adventure that came on the market? Just because this is in a less conventional form than, say, 'The Hitch-Hiker's Guide to the Galaxy', is no reason to spoil the fun.

Cast your mind back to your

first encounter with 'The Hitch-Hiker's Guide to the Galaxy'. Think back to the sense of achievement you felt upon confounding one small hole, one hook, a drain, a panel and two exasperating robots just to shove a space-age guppy in your ear. Or the determination and tenacity which built up little by little every time you were blasted into little bits and smeared over the universe. Well, can't you see how much more subtle this program is? A fully workable package with no booby traps, other than the manual, but twice as frustrating. Brilliant!

If we were talking about any lesser magazine than 8000 Plus, I would think that you had been taken in and hadn't realised that this is a most sophisticated game, and not an office package at all. Having blown the database, I would beg you not to cover the communications section as I am still saving for a modem in order to participate in what will surely be the most confoundingly difficult climax yet devised to any adventure. Please don't spoil my fun.

Margaret Hubter
London

Disc Recovery

I think I am now getting on top of the disc doctoring again, despite getting a continuous supply of them



"TROUBLE IS, I CAN'T UNDERSTAND THIS MANUAL EITHER"

referred on by Locomotive Software and Amstrad. I have improved some of the salvage techniques and am automating others.

I think therefore that I can now handle more problems and so I'll repeat my original offer - anyone who has a corrupted disc with vital data can send it to me with a blank formatted disc. I'll do my best to retrieve what I can. I've farmed out

some of the more tedious tasks so there's now a small fee for my local helpers. All profits go to the BACUP Cancer Counselling charity.

David G Smith
Kent

8000 PLUS A very useful service and a very worthwhile cause. Send dull disc, with blank formatted disc and return postage to:
David Smith, 41 Tutsham Way, Paddock Wood, Kent, TN12 6UA. Tel: 089283 5974.

Ripoffs

Having just become a subscriber to your magazine and ordering some back issues, I have noticed that once upon a time you used to have available to lesser mortals like myself 'TIPOFFS The Collection: Issues 1-5' for the small price of £3.95. Is there any remote possibility that this vital publication will once again be on sale? Please say yes.

A A Stultz
London

8000 PLUS Sorry, there are no plans to reprint it at the moment - we'd have to do it in a run of several thousand to make it worthwhile. You shouldn't need it, though - we've been re-running the best of the early tips (modified for LocoScript 2 too) in our 'Desert Island Tips' series in Tip Ofcs for the six months or so. Back numbers still available while stocks last!

Take it away

As I sat on the beach in the Gambia, soaking up the sun while wrestling with the unbelievably tedious process of using pen and paper (I am a writer by the way), I sighed with longing for my PCW, wishing I could have packed it, along with the suntan oil, bikini and sunglasses.

When I returned home, I found your excellent magazine waiting on the doorstep and inside was an advertisement for the new portable PPC. It seemed the answer to my prayer, for I am often away from home (not, I hasten to add, solely on holiday) and would find such a machine invaluable. I hotted round to my friendly Dixon's store, marvelled at Mr Sugar's genius in producing something so compact and lightweight and then found that it was not compatible with my PCW.

I rang Locomotive software who confirmed that LocoScript 2 could not be used on the new portable PPC and that they had no plans for producing such a version. When I humbly suggested that there might be a

It produces results which are dramatic, if unintelligible. I enclose a copy of this letter in Thesis PS to illustrate my point.

I don't know how to make it print English. Neither does my dealer. When he rang Amstrad, they seemed unaware of any problem: admittedly he only spoke to the sales staff, and is now trying to contact the technical people.

I imagine you have had many letters on this subject, and will have the answer in next month's issue. Or can I lay claim to the title of No. 1 Computer Thicker?

John Hawthorn
Widmore

8000 PLUS All you need to do is make sure your document and printer are set up to expect the PS wheel - if they think they're still on the normal Prestige Pica 10 style then you get gobbledygook.

First you add the Thesis wheel to the list of 'character styles' that LocoScript knows about - through [6] 'Settings' in the disc manager, selecting 'new character style' and giving the new name as Thesis and the pitch as PS.

Write it to your startup disc under SETTINGS.STD by following the prompts.

From now on, if you want a document to be printed with this wheel, set it up through [1] selecting Document

setup'. Press [6] 'Printing' and choose 'character style' setting the option you want, Thesis, with the [4] key. When you come to print out you'll be asked if you want to change from the current style (probably Prestige Pica 10) to that intended for the document (Thesis), so take that option.

```

jvk jop bq
1777 A1P8
8 / 142 S qvk
71E *14 715 -
c001
:kyo Spq
Eyspl qkxv pi Toqqrte 1777 A1P8 b" -vk iha juxkxv AS Spqpl
bkrx "vk AS" #103 ? [5_ 51] j015v Skyzkx -D [K_ tk D18E
? c008kx qkxv k hpxlv ykx qkv p13 p" x101_xv01pdxk ?
q1jzbrk ? j001 b" -vpx tk_kq pi juxkxv AS -D p0xk_q7_51
c001
? b00t :14b v5b -b 5yvk p c001 j1(f0v0v) :hp vko b00x 51
qkxv0k *xk1 v0 qv1 Tvk -v0v0 vki qkxv0 q1y0k0 b 71
c008kx v0v0 -b02 v0 b12 c0b7 -b v0 vpx AS v0v0 710 p0
i0a -q101 -b [7,7] -v0 -b1v1p15v c0b000
? qkv(p1k 10b vpx v0v 71v1 sk -v0v b1 -v0v qkxv) 3 710 h0x
vpx -vk q1y0k0 pi i0a -b01-v0v p0xkz kq jyi ? 71v 10p0k -b
-v0 -p_kk b -b01 4 b0v0x_kq jv0101
D00x0 j01a_p1y0z1
b0v1 b0v0k

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Mini Office is a suite of five integrated programs: database, word processor, spreadsheet, graphics module, and a communications package which is as comprehensive as anything else on the market. It can display both graphics, text screens and the "Viewdata" block graphics used by Prestel. You are offered baud rates from 75 to 5600, variable file sizes, terminal and tape, straight terminal emulation for Teletype, Teletext, and X-Modem and KERMIT file transfer protocols for error-proof transfer of long files. Would be well worth the money just by itself - just of course you are getting four other very good programs as well.

PLUSES • MINUSES

- ❑ Very comprehensive - a genuinely useful compact package
- ❑ Ordinary text and "Viewdata" block graphics
- ❑ Can save setups under names and recall them, so you only need work out your baud rates/parities once
- ❑ You can set keys to return strings, such as Teletext Gold passwords
- ❑ Manuals of very little use

CHITCHAT E-MAIL/VIEWDATA/COMBO

Sagesoft • £69.99/£69.99/£99.99 • 091 284 7077

Two communications programs for the 8000 series machines that have been around for a good time now. Most of the features you will need are here: message text editor, programming (unattended tasks if you use a suitable "intelligent" modem), directory of stored numbers, copy to printer, and a very useful connect time clock so you can watch your phone bill climb! E-

mail is used for simple text phone links like Teletext Gold, whereas you'll need Viewdata if you want to use Prestel. The Combo pack contains both E-mail and Viewdata.

PLUSES • MINUSES

- ❑ Good, clear documentation
- ❑ Easy for first time to use
- ❑ Built in text editor for pre-sending message preparation
- ❑ Pre-definable tasks executable at any preset time if unattended.
- ❑ No error corrected file transfer (ie. X-modem or CRC)

DIALUP

£89.99 • PMS Communications • 021-643 7668

Offers both E-mail and Viewdata operations. Very easy to use, and offers an XMODEM file transfer protocol unlike Sage Chitchat. If you are buying a computer, there are some out-of-the-box bundled deals to be had from the Micro Technology W5000 bundle.

PLUSES • MINUSES

- ❑ Simple to use
- ❑ Comprehensive file transfer commands, including XMODEM and file increasing protocol KERMIT
- ❑ Runs from the PC drive
- ❑ Manual is not PCW specific, and the references to 5.25" discs are tedious

COMM+

£86.25 • NewStar • 0277 220573

This single package combines both ASCII and full Viewdata block graphics and Teletext-style downloading. A very powerful compact language allows you to look for particular messages coming in and file actions, even while doing other things. Its use is enhanced by your program being able to be run in batch.

PLUSES • MINUSES

- ❑ Very comprehensive and well indexed ringbound manual
- ❑ High quality block graphics
- ❑ Well illustrated on-line help menus for beginners
- ❑ Automatic program works with most manual modems
- ❑ Teletext-style downloading facility, with CRC/X-modem checking
- ❑ Very powerful command language, doesn't need much programming skill to learn
- ❑ Not recommended for absolute beginners to communications

£8.95 each.

PLUSES • MINUSES

- ❑ Features a C tutorial
- ❑ Comprehensive implementation and massive manual
- ❑ Not for the newcomer to programming

PASCAL

£39.95 • HiSoft • 0525 718181

A standard full Pascal compiler

PLUSES • MINUSES

- ❑ Well integrated text editor - when you hit a compilation error you are returned to the correct point to edit it
- ❑ Short compilation time, economical on memory
- ❑ Manual makes no attempt to teach you Pascal.

THE VICAR

£29.95 • Iansyst • 01-607 5844

A programming tool for serious programmers. If you have a several-hundred line program held in several files on a disc, you can look back at which variables are used where. The VICAR produces a concordance listing and other diagnostics, to help you find bugs and maintain the program.

PLUSES • MINUSES

- ❑ Easy to use but still flexible through use of options
- ❑ Amstrad versions all at a special low price
- ❑ Good manual
- ❑ Only of value on large programs
- ❑ Limited value to most PCW users (except BASIC buffs)

MODULA 2

£45.00 • FTL/Grey Matter • 0364 53499

A compiler. Modula-2 is the successor to Pascal, good for large programs requiring separate compilation.

PLUSES • MINUSES

- ❑ Full implementation with extensions.
- ❑ Includes libraries of predefined modules
- ❑ WordStar-type screen editor included
- ❑ Compilation process is slow and not for beginners

CBASIC

£45.00 • Digital Research • 0635 35304

Compiler

PLUSES • MINUSES

- ❑ Easier programming tool than conventional BASIC interpreter
- ❑ Very similar to BASIC, so easy to learn
- ❑ No text editor - must split your programs into 200 line chunks for RPD to work on
- ❑ Programs work no faster than they would in conventional BASIC, sometimes slower

IT'S BASIC (VOLS 1 AND 2)

£7.95 each • Nabitchi • 051-708 8775/0123

Games with a more serious intent. These discs provide 20 simple games and applications each, and allow programmers to look at the BASIC to see how it's done and to adapt it for their own programs. You can play music on your CPM and create your own Space Invader figures.

PLUSES • MINUSES

- ❑ Twenty programs at rock bottom price.
- ❑ Invaluable tips for programmers.
- ❑ Costs little more than a blank disc.
- ❑ No tutorial guidance.
- ❑ Non-programmers may get bored

• PROGRAMMING •

Programming languages come as either 'compilers' or 'interpreters' - compilers pre-process the program into machine code, so are much faster. The PCW's standard Mallard BASIC and LOGO are both interpreters. Compilers are generally more cumbersome to use than interpreters, but have obvious benefits.

With language compilers in particular it is difficult whether they are reliable and efficient without spending many weeks working with them, impossible for a brief review. If you use a specialised programming language and have any comments that would help us compile a good software file entry for it, we would be pleased to hear from you.

HISOFT C

£39.95 • HiSoft • 0525 718181

A very good C compiler, fast, produces good compact code.

PLUSES • MINUSES

- ❑ Compiles program into ordinary CPM .COM file
- ❑ Produces compact code
- ❑ Fast and inexpensive
- ❑ No floating point arithmetic

ARNOR C

£49.95 • Arnor • 0733 239011

Good compiler with floating point arithmetic, but not as fast or as cheap as HiSoft C.

PLUSES • MINUSES

- ❑ Excellent integrated text editor
- ❑ Floating point arithmetic

- ❑ Cumbrous to produce .COM files, needs special run time support program
- ❑ HiSoft C is faster and cheaper

LFORTH

£19.95 • HiSoft • 0525 718181

Forth is an unusual language, somewhere between assembler and C. This is one of the few compilers available for the PCW.

PLUSES • MINUSES

- ❑ Comes with a Forth editor
- ❑ Quick and efficient implementation
- ❑ Manual doesn't teach you Forth

MIX C

£29.95 • Advantage • 0844 52075

American C compiler. You can buy a full screen editor with it for £19.95 extra. Also machine code assembler & examples for

NEXT MONTH

The guide continues with the categories of SPREADSHEETS, GRAPHICS and GAMES. The month after that will cover WORD PROCESSORS, ACCOUNTS/PAYROLL, UTILITY and DTP software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation,

updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.